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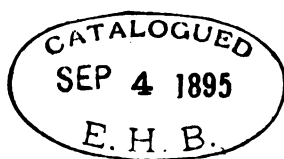
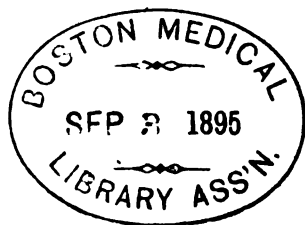
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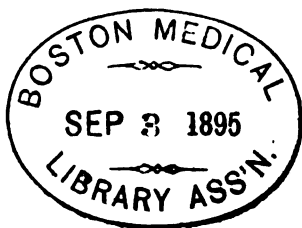
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ORIGINAL ARTICLES.

PURULENT NECROTIC MEDIASTITIS, WITH PERI-
CARDITIS AND DOUBLE EMPYEMA, RESULTING
FROM SUPPURATION OF A SUBMAXILLARY GLAND.

By GEO. S. MIDDLETON, M.A., M.D.,
Physician to Glasgow Royal Infirmary.

ACUTE inflammation of the mediastinum rarely comes under notice, and is still more rarely diagnosed. Of the cases recorded, most have been traumatic, but a few have been referred to rheumatism, some have been secondary to caries of the sternum, or to tubercular disease of the bronchial glands, and others have been of pyæmic origin. In a few instances, after tracheotomy, inflammation has extended from the wound in the throat down into the mediastinum. The best article on the affections of the mediastinum with which I am acquainted is that by Dr. William A. Edwards in Keating's *Cyclopædia of the Diseases of Children*, and in it there is no mention of any case similar either in origin or in its pathological anatomy to that about to be narrated.

James H., 11 years old, was admitted to the Royal Infirmary on 18th December, 1892, complaining of pain in the front and left side of his chest of one day's duration. He was

sent in as an urgent case by my friend, Dr. James Dunlop, Dennistoun. The history bore that about a week previously the boy had been taken to consult Dr. Dunlop on account of a small swelling under the lower jaw on the right side, supposed to arise from a bad tooth. On the evening of 16th December Dr. Dunlop was sent for to see him, and found him sitting up at the fireside, but complaining of not being well. Examination at that time failed to detect anything beyond an increase of the swelling in the neck and some fever. On getting up on the morning of 17th December, the boy for the first time felt pain in his breast, and on the evening of that day Dr. Dunlop discovered pericardial friction. There never was any rigor.

On admission the boy was seen to be very seriously ill. He had marked dyspnoea, the nostrils dilating with each inspiration. The respirations numbered 50 per minute, and caused great pain, especially when deep. The temperature was only 100.2° , but the pulse was 132, irregular, small, and easily compressible.

The pain in the breast he described as griping, while that in his left side, at the lower margin of the ribs and extending round to the back, was stabbing in character. Both were aggravated by deep breathing, by movements, and by pressure. He could not lie on his back without pain; he was easiest when lying on the right side.

His face was pale and expressive of pain. Under the lower jaw on the right side there was a swelling of considerable size, extending quite down to the level of the clavicle, fluctuant, red, and inflamed-looking. This had gradually developed with very little pain, except on pressure. Continuous with this swelling in the neck, there was marked oedematous swelling over the upper part of the thorax on both sides of the middle line, with dulness on percussion. Over this area, on the day of admission, an emphysematous crackle was said to have been made out on pressure. He was so ill that only a hurried examination could be made. Pericardial friction was audible all over the præcordial area, and in the left lateral region and back pleural friction was also heard.

"19th December.—The temperature rose after admission to 103° , and during the night the boy was delirious. Though his temperature has now fallen to 101.6° , he is much worse than he was yesterday, his pulse varying from 132 to 158 per minute, and his breathing from 42 to 50. He has an ashy-grey look about the face, and the finger tips are livid. Since his admission, dulness over the lungs has rapidly

increased; it is well marked at both bases, and well up the right side of the chest. Pericardial friction still persists." The boy died on the afternoon of 19th December, having been in hospital only some twenty-four hours.

A *post-mortem* examination was made on 21st December by Dr. Lindsay Steven, whose report is as follows:—

"The body is fairly well nourished; decomposition is advancing in the front of the chest, abdomen, and neck. There is a moderate degree of swelling beneath the right side of the lower jaw in the region of the submaxillary gland. Pupils are slightly dilated and equal; lips very livid.

"On reflecting the soft tissues from the front of the neck and chest, they are observed to be markedly œdematous. There is no subcutaneous emphysema. The tissue lying in front of the trachea is thickened, opaque, and vascular, as if from the near presence of inflammatory change; and it is obvious, on cutting into the region of the right submaxillary gland, that a foul-smelling abscess has been opened.

"Both pleural cavities contain from 6 to 10 ounces of foetid pus, and the loose connective tissue of the mediastinum, from the suprasternal notch to the diaphragm, is infiltrated with pus, and practically in a condition of slough. This sloughy condition is abundantly present on the external surface of the anterior layer of the pericardium; but the pus-infiltrated tissue can with tolerable ease be separated from the underlying pericardium. On opening the pericardium a very recent and very moderate generalised pericarditis is discovered, which has been sufficient to cause only a slight roughening of the surface.

"In the right pleura there have evidently been old connective tissue adhesions. These are found to be infiltrated with purulent material. The thoracic organs and the contents of the neck are removed *en masse*, and on dissecting the structures in front of the trachea a direct channel of communication is found, behind the sterno-thyroid muscle and directly in front of the trachea, between the submaxillary abscess already described and the mediastinum. The walls of this channel, which is fully a finger's breadth in diameter, have the same sloughy character which has been described in connection with the mediastinum.

"The lower jaw is carefully felt, but no roughness or other evidence of disease can be made out.

"The liver, spleen, kidneys, and other abdominal organs present healthy appearances.

"On opening the larynx and trachea the mucous surface

has an intensely congested appearance, and is covered with blood-stained mucus."

For nearly a week this case presented no *obvious* symptoms other than those we are accustomed to associate with an abscess in a submaxillary gland. During that time necrosis of the gland must have been going on, and the necrotic process must have been insidiously extending below the deep cervical fascia to the mediastinum. When, however, the pleuræ and the pericardium became involved, there was a sudden outburst of severe symptoms, with a rapid course towards death. To account for such a series of events, the cause must have been extremely virulent. The *post-mortem* examination did not reveal the origin of the glandular inflammation, and, through a misunderstanding, no proper bacteriological examination was made, the bacilli of tubercle alone being sought for, and without success.

THE CONDITION OF THE BOWEL IN TYPHOID AFTER ANTISEPTIC TREATMENT.

By A. M. ANDERSON, M.D.,

Medical Officer of Health, and Medical Superintendent, King's Cross
Fever Hospital, Dundee.

WITH reference to my published papers on the antiseptic treatment of typhoid by the administration of salol in combination with chlorodyne and lac bismuth, I claimed therein:—

1. That this antiseptic treatment completely and permanently arrests the course of the typhoid disease.

2. It subdues the typhoid poison without producing injurious consequences.

3. It prevents intestinal ulcerations.

4. I expressed my belief that antiseptics renders the typhoid stools incapable of propagating the typhoid infection.

The last point can be established only by bacteriological experiments, but, in respect of the first three, I have already published a considerable amount of evidence.

The first and second points I regard as conclusively proved, but in respect of the third—viz., the prevention of intestinal ulcerations—the evidence so far attainable has been of an inferential character.

In my last paper on the subject, dealing with 84 cases of typhoid, I stated as follows:—"In every one of the 29 patients included in this class (that is, coming under treatment before the tenth day, and having no complication) the temperature fell to normal, or below normal, on the fifteenth day, as nearly as may be ascertained. Thereafter it remained sub-normal for seven to twelve days, and then attained the normal line, and so continued until the patient was discharged cured. Under the influence of antiseptics, and coincident with the subsidence of the temperature, the tongue, from being dry, hard, and dirty, became clean and moist, the sordes on teeth and lips scaled off, the delirium, dilatation of pupils, trembling of the hands and tongue, and other nervous symptoms ceased, and the patient became perfectly conscious; the pulse fell to normal, or below normal, the tenderness over the ilio-cæcal region disappeared, and even deep pressure and grip of the intestines evinced no sign of tenderness, thereby showing that the acute congestion of the intestinal glands had ceased. There was no typhoid diarrhoea, and the abdomen became flat, soft under the hands, without any tenderness. The bowels moved every second day, after an enema, and the stools were formed and consistent. Is it possible that intestinal ulcerations can exist in typhoid without exhibiting any sign whatever of their presence? According to my experience, that is not possible."

But there is a wide distinction between inferences derived from observation of patients, and knowledge obtained from *post-mortem* examination. Hitherto the latter has not been obtainable in cases coming under treatment before the tenth day of illness, mainly because the mortality has been in cases coming under treatment after the tenth day, when the intestinal glands have already begun to slough, or are on the verge of sloughing. Now, however, I am able to report a case of typhoid, which came under the antiseptic treatment on the eighth day of illness, and died on the thirty-seventh day from gangrene.

The limits of space forbid the publication of my daily notes; but, briefly stated, the main points were as follows:—The patient was obviously not robust, abdomen greatly distended and hard, with well marked and persistent tenderness over the epigastrium; ilio-cæcal tenderness distinct, with high temperature and dry tongue. There was no typhoid diarrhoea, and the bowels moved every second day after an enema. Owing to the condition of the skin, the typhoid spots were not so distinct as usual, but they were there. In this patient, as

in others where the typhoid was complicated by abdominal inflammation, the antiseptic agents did not produce the free perspiration always caused in uncomplicated typhoid.

The great distension and tenderness of the abdomen continued, and about the twentieth day of illness gangrene of the left cheek began. He died from the exhaustion of gangrene on the thirty-seventh day.

Post-mortem abdominal section was allowed. There was no purulent peritonitis, but the coils of intestine were matted together in several places. The small intestine was almost entirely collapsed. The pancreas greatly enlarged, and intimately adherent to the surrounding viscera. The mesentery was intensely congested, and studded with swollen glands about the size of a raisin. The ilio-cæcal valve was swollen, but not ulcerated. Within four inches of the valve there was a glandular swelling two inches long, and at the end of this there was a small circular ulcer rather less than a split pea. Twelve inches from the valve there was a very slight superficial erosion on the end of a glandular swelling. There were no other ulcerations, and beyond two feet from the valve there were no glandular swellings.

Remarks.—This was a case of typhoid occurring in a weakly subject. When he came under the antiseptic treatment, on the eighth day of illness, the typhoid was complicated with severe abdominal inflammation, and therefore the course of the illness was not arrested on the fifteenth day, as it usually is in uncomplicated typhoid. The inflammation of the pancreas and mesentery was more severe than any I have hitherto observed in typhoid, and this may be connected with the gangrene which followed. But the most interesting facts were found in the state of the intestinal glands, and the evidence they afford of the influence of the antiseptic agents in preventing intestinal ulceration. So far as I know, this is the first case of the kind recorded, and a comparison between the state of the intestinal glands in this case, and that usually observed in all typhoid under every other method of treatment, goes a long way to confirm the inferences I deduced from clinical observations.

THE PREVENTION AND TREATMENT OF DIPHTHERIA,
WITH ILLUSTRATIVE CASES (HAVING SPECIAL
REFERENCE TO THE REMOVAL OF THE TONSILS).¹

By WILLIAM WATSON, M.B., C.M.,
City of Glasgow Fever Hospital, Belvidere, Glasgow.

OF late years the larger cities of Great Britain have suffered more from diphtheria than formerly, and during the last year the outbreak in London and Glasgow has been exceptionally great. Since March of last year it has been my privilege to have under my care the cases of this disease sent into Belvidere Hospital, and now it is my desire to record in this paper the experience I have gained in the treatment of them.

So much has been written on this subject that, to avoid repetition, I shall only speak of what has appealed to me most strongly. I shall first deal with prevention, and afterwards with treatment.

In working with cases of diphtheria, three things strike one very forcibly—

1. The fact that at least 80 per cent of the children suffering from that disease have teeth badly neglected, and gums in a most unsatisfactory state.

2. The frequency with which parents or guardians tell you that the patient's tonsils have been previously enlarged.

3. The frequency with which you get histories of former attacks of "croup."

With regard to the first, it is to be remarked that mothers are often extremely careless about their children's teeth. The milk teeth decay or become loose, but are not drawn until they are pushed from their places by the permanent set. In this way the gums get into an unhealthy state, and slight local suppurations are always going on. As a result of this the gland structures connected with the mouth suffer. In the neck there is an enlargement of the glands, which then form a suitable soil for the development of tubercle. But, as a further result of this constant irritation, we have an enlargement and hypertrophy of the tonsils, with a series of consequent evils—

- a. Constant liability to sore-throat.

- b. Development of nasal voice.

- c. A permanent open state of the mouth, often accompanied

¹ Submitted as a Thesis for the Degree of M.D. in the University of Glasgow, 20th March, 1894.

by slight protrusion of the lower jaw, and causing the individual to have an expressionless cast of feature.

d. Greater tendency to inflammation of the mucous membranes of the respiratory tract, such as laryngitis and bronchitis, due, in the lower part of the tract, to the direct passage of cold air over these surfaces without first having gone through the nasal heating apparatus.

e. Pulmonary troubles arising from the impeded growth of the chest. (There being an impediment to the free entrance of air there is not the same pulmonary growth, and, consequently, not the same proportionate bony development. This being so, there is then an increased chance for tubercular developments.)

f. The greater tendency to diseases like scarlatina and diphtheria.

It is a well known fact that both these diseases occur more frequently, and are more often fatal in patients under 6 years of age. This period in life represents the time when there is the greatest dental change, and when we are most apt to have suppurations in the gums, with their attendant glandular changes. If tonsils have become chronically enlarged, either as a result of oral irritation long kept up, life in damp insanitary dwellings, scarlet fever or diphtheria, they rarely again become normal, and the atrophy, which naturally occurs with advancing years, does not take place. This was lately shown by Dr. Dowson, Bristol, in a paper which he read before the Pathological Society of London, where he gave the result of a long series of observations on the tonsils of out-patients at the dispensary.

This induced abnormality must lessen the resisting power of these organs to the invasion of disease, and consequently render patients more liable to attacks of scarlet fever and diphtheria. But, as has been shown, enlarged tonsils render persons more liable to laryngitis and bronchitis. Now, these attacks, if frequent, must cause the inflammation of the mucous membranes to become more or less chronic. There will be a hypertrophy of the lymphoid tissue in these structures, and, as we well know, diphtheria is a disease the local lesion of which is, as a rule, in such tissue.

When an attack does occur there will, in consequence, be a greater danger of laryngeal and tracheal involvement, there being less resisting power, and at the same time a deeper soil for the cultivation of the diphtheria bacillus.

Taking these things into consideration, it will be seen how essential it is, not only for the better physical development of

a child, but also for the prevention of a disease like diphtheria, and the much better chances of recovery should such occur, to have the upper parts of alimentary and respiratory tract in a satisfactory state.

It is the duty of the medical officer of health to have such causes of enlarged tonsils as damp and insanitary dwellings removed, but the physician should have the teeth at once attended to, and the gums brought back to a healthy state. The operation for the removal of the tonsils, being so simple and so rarely attended with danger, should be performed. Stenosis of the nostrils (a frequent accompaniment) should be attended to, and any post-nasal adenoids should be removed. Dr. Lennox Browne thinks he has noticed a special immunity from diphtheria after excess of mucous membrane has been removed from tonsils, and it is reasonable to expect that the natural function of these organs being established, we should have gone a long way in the prevention of a most fatal preventable disease.

But there are other things to consider in the prevention of diphtheria. According to the present knowledge of the etiology of the disease, so far I have only been speaking of conditions favouring the occurrence of diphtheria. Löffler has proved the presence of a distinct bacillus, and Roux and Yersin have shown that its products cause the constitutional symptoms of diphtheria with paralysis. Granted that all this is correct, so long then as the specific germ is kept away, the thickenings of lymphoid tissue, &c., will continue to cause local and perhaps constitutional disturbances, but what is known as diphtheria will not exist.

This disease seems to have been noted by Hippocrates, and, under different names, it was described all through the succeeding centuries, until it was fully studied and given its present name by Bretonneau. Then Home, by using the word croup, to indicate an affection of the larynx accompanied by the formation of membrane, would seem to have made such an impression on literature as to cause to this day a chance for the greater spread of diphtheria. Though no longer do Continental physicians draw a distinction between croup and diphtheria, yet in Britain such a distinction is still made, and herein comes the danger.

As we have modified cases of small-pox, scarlet fever, &c., so we have modified cases of diphtheria. There may have been a lesion in the throat, which has escaped observation, and the croupyness only has attracted attention. The disease has not been regarded as infectious, and the patient, not

suffering much, has been allowed to go about breathing diphtheria on the susceptible around him.

The following is copied from a report drawn up by a committee of the Royal Medico-Chirurgical Society (Dr. West, President), appointed to consider the subject of membranous croup and diphtheria:—"The committee suggest that the term croup be henceforth used wholly as a clinical definition, implying laryngeal obstruction occurring with febrile symptoms in children. Thus croup may be membranous or not membranous, due to diphtheria or not so." "The committee propose that the name membranous laryngitis should be employed, in order to the avoidance of confusion, whenever the knowledge of the case is such as to allow of its application." Having thus the authority of such an august body as the Royal Medico-Chirurgical Society for the employment of the word croup, it is still used, but its use would seem to be a source both of confusion and danger.

The question naturally arises, Is there ever a case of membranous laryngitis which is not due to diphtheritic origin? It must be due to an irritant of some kind. Were it a chemical agent, a history of such an injury could likely be easily got. It is generally attributed to cold. There would not seem to be much difference between the mucous membrane lining the nose and that lining the larynx and trachea, and cold causes an inflammation in the former, which is followed by an excessive secretion of mucus, and not by a fibrous deposit.

Since Professor Baginsky, Berlin (see *Lancet*, vol. i, 1892, page 590), proved the presence of the diphtheria bacillus in membranous rhinitis, there is no disease in the mucous membrane of the nose corresponding to a non-specific, non-infectious membranous formation in the mucous membrane of the larynx. Because membrane has not been seen, it cannot be held as proof that it did not exist. The throat may have been examined after the patient has been "hawking" or drinking. The membrane in this way may have been removed, and although the patient is croupy no membrane is seen on the throat.

I have never, in about two hundred cases, seen one where the patient could be said to be suffering from membranous laryngitis, without there being some enlargement and congestion of the tonsils, or congestion of the surrounding structures. The veil of the palate is often responsible for obscuring the real state of the throat affection. Nor have I ever performed a *post-mortem* examination on a patient and

found membrane in the larynx and trachea, without finding membrane in the nose or naso-pharynx. Sanné mentions a case where no membrane could be seen during life, but at the autopsy the posterior surfaces of the tonsils were covered with membrane.

But next to the faucial tonsils, the most common seat of diphtheria is the naso-pharyngeal tonsil, and, as it is hidden behind the soft palate, its involvement is often overlooked, and the case certified as croup—non-specific and non-infectious. This error may be prevented by noting the bulging forward of the soft palate with the tilting forward of the uvula, and the rather acrid discharge which comes from the nose. Some or all of these conditions have been present in the cases I have seen certified membranous croup, or membranous laryngitis.

As before mentioned, the application of an irritant such as cold would cause a greater flow of mucus from membranes of respiratory tract; and in the later stages, when this was thick, it is possible there might be considerable difficulty of breathing, from its lodging in the narrow opening between the vocal cords, and in this way give rise to the idea that membrane was present. The cases certified membranous croup or membranous laryngitis are, in this hospital, admitted to the diphtheria ward, but none of these cases have ever contracted diphtheria. If these diseases be of separate origin, one infectious and the other not so, this is the more remarkable as the throats of all were congested, and in a fit state to receive the diphtheria infection.

The conclusions from the above observations are—

(i) That the use of the word croup is a source of great danger, inasmuch as it often conceals the infectious nature of the case.

(ii) That if there are evidences of membrane in the larynx, there will, in all probability, be an affection of the lymphoid tissue in the pharynx, naso-pharynx, or nose.

(iii) That membranous laryngitis is almost always due to the action of the diphtheria bacillus, and unless a history of the application of a sufficiently strong irritant be got, it should be looked upon as such, and patient isolated.

(iv) That instead of using the word croup to denote the "non-membranous" laryngeal obstruction occurring in children with febrile symptoms, the word laryngitis only should be used. This term would be non-committal. It would mean only an inflammation of the mucous membrane of the larynx, and might be due to cold, as we would have a rhinitis, or might be due to measles, scarlatina, small-pox, enteric fever, &c.

We have now seen abnormal conditions in the patient favouring the development of diphtheria—all that appertains to housing, drainage, subsoil water, milk, food, or water supply, must be left to the medical officers of health. We have seen how, by errors of diagnosis, we may cause a greater spread of the disease, and it now remains to be seen how this can be prevented.

Such great work has been done in stamping out typhus fever and small-pox by a minute study of these diseases, combined with strict isolation, that it makes one hope that the same desirable results may be attained in diphtheria. It has often been shown how prevalent sore throats, which at first are looked upon as simple, are when there is an outbreak of diphtheria, and, at the same time, how difficult it often is to trace a case of diphtheria to an undoubted case of the same disease. One often meets with cases of scarlet fever where most of the usual symptoms are absent. There is a complaint of sore throat, but nothing else. No rash is seen, or it is so ephemeral that it has not been noticed. There are no constitutional symptoms, and there is usually no desquamation. Were it not for the fact of association with undoubted cases, the diagnosis would be a matter of great difficulty, or perhaps impossibility, in our present state of knowledge. Some of the cases lately described by Dr. Marsh in Dr. Chalmers' paper on the Kelvinside outbreak of scarlatina, recently published in the *Glasgow Medical Journal*,¹ were of this nature. Since then, two such cases have come under my notice. Both were mothers nursing children with scarlet fever, and both had well marked scarlatinal throats, with an entire absence of anything like constitutional symptoms. There can be little doubt as to the infectious character of these throats, and, consequently, the patients with such should be isolated, like ordinary cases of scarlet fever, until their throats become normal.

In the same way there are throats passed as simple, which are really of diphtheritic origin. Within the last few weeks I have seen two very painful examples of this. A gentleman in Hillhead brought his daughter here suffering from well marked diphtheria, from which she died. Another child at home was lying dangerously ill of the same disease. On further questioning as to the previous health of the family, it was ascertained that two or three weeks previously other two children of the same family suffered from slight sore throat, but were not ill enough to be away from school. Before they

¹ 1894, vol. i, p. 117.

were quite well they went on a visit to the country, where the two, certified as having diphtheria, were staying for some time previous to the onset of sore throat in the two new arrivals. They had only been a few days together when the first child took well marked diphtheria, and a week later the second was admitted here.

The other case was that of a student, admitted with malignant diphtheria. His brother, who came with him, informed me that they lived together, and that he himself had suffered from slight sore throat a week previously, but that it had not interfered with his duties. But what had been to him only a slight inconvenience, proved to be a fatal attack of diphtheria in the case of his brother.

Dr. Thorne Thorne, in his treatise on the Natural History, &c., of Diphtheria, shows clearly how much school attendance plays in the spread of the disease. And when we consider the vitiated atmosphere, the frequent and sudden changes from heat to cold, and the neglected state of some of the children, we cannot wonder that a very fruitful soil is prepared for the reception of a poison, which is all the more easily communicated on account of the close contact of the scholars. Doubtless there are some present in all schools complaining of a little hoarseness called croup, or sore throat, so slight as never to raise the suspicion of scarlatina or diphtheria; but scarlatina or diphtheria, perhaps in a most fatal form, they are capable of giving to those around them.

It is difficult to understand why sanitation should have so effectually checked all the other infectious diseases, and why, at the same time, diphtheria should be increasing at such an enormous rate. Bad feeding, unhealthy mouths, and crowded schools may, to some extent, explain why, with improved sanitary surroundings, the death-rate from diphtheria is rising so rapidly. Since the beginning of the improved sanitation era, all the other conditions may be said to be superimposed. There is more now than formerly of women going out from their homes to work, with consequent neglect of children; and instead of the former healthy oatmeal diet, tea, bread, and jam seem to be the staple articles of food among the lower classes. All this tends to premature decay of teeth in children, with the attendant evils beforementioned. And since school attendance has become compulsory, there is now a much greater chance of one diseased child carrying infection to many.

The first of these causes is difficult to remove, the second impossible. But to counteract their dangers, the appointment

of a medical officer to a school to examine frequently the mouths and throats of all the children present, to have teeth put right, chronic enlargement of tonsils attended to, children prevented from attending whose throats are at all inflamed, inquiries made as to association with diphtheria or scarlet fever in all such cases, and cultivations made in supposed cases of diphtheria, would no doubt go a long way in lessening these diseases. As the personal examination of all the frequenters of model lodging-houses, and the house-to-house visitation in suspected districts, did so much last year in quickly stamping out an alarming outbreak of small-pox, so this might be the means of stamping out, or at least greatly lessening, the ravages of a disease like scarlet fever, or the most fatal of all the infectious diseases, diphtheria. Knowing that every year confers a greater immunity from either of these diseases, or a very much better chance of recovery if they do occur, then careful watching over the welfare of children at this dangerous age might do much to prevent suffering and save human life.

Another point in the prevention of diphtheria is the after-treatment of cases of that disease. Dr. Gresswell has brought this very strongly under the notice of the profession on account of several observations he has made. He holds that a person who has suffered from diphtheria may, for a long time afterwards, have tonsils very liable to inflame on exposure to cold, &c., and that while in this state such persons are capable of communicating diphtheria to others. The cases he quotes seem well authenticated, and, when we consider the great vitality of the diphtheria bacillus, this is not to be wondered at. As lymph (vaccine) might be applied to the sore after a successful vaccination without causing the re-formation of the typical vesicle, so the diphtheria bacillus might lodge in the crypts of the tonsils, incapable of causing a local or constitutional disturbance after the immunity conferred by the primary inoculation. But when the supply of mucus became more than normal, it is reasonable to expect that the bacillus might be carried to the throats of others, and be the means of setting up diphtheria. Tonsils in this condition, being a source of danger, or at least annoyance, to those having them, and a decided source of danger to other people, should be removed.

This opens a large field in the after-treatment of scarlet fever and diphtheria.

Cases of the former disease are dismissed from Belvidere after a stay of not less than eight weeks, and after the last

trace of desquamation has gone. They are taken before leaving to the dismissal baths, where in one apartment on entering all their clothes are left behind. They are then thoroughly washed in the baths, and afterwards conducted to the dressing-room, where they put on fresh clothes brought directly from the outside through another door. From this they pass straight to the outside, without again coming into contact with anything infected. Their home during their stay has been disinfected, the clothes washed and disinfected, and until their return no other case has occurred in the house; but, after they have been at home for a few days, another child of the same family sickens, and is admitted with scarlet fever. Of course, there are cases occurring where a child sickens before the other is dismissed, or sometimes after the other should have been dismissed but has been detained for some reason, but there are cases where the re-introduction of infection is strongly suspected. Considering the deep ulceration of the mucous membranes of the throat and nose often present in scarlatina, and the granular condition which may exist for a long time afterwards in a hidden situation, forming a splendid soil for keeping alive the infective organism, combined with the fact that before dismissal the patient has been breathing the atmosphere of a highly infected ward, it is not to be wondered at if they should afterwards on breathing disseminate the infective elements of the disease from which they have suffered.

This would seem to lend support to the views of Dr. Gresswell, and raise the question if it be right to dismiss a patient directly from an acute infectious diseases hospital. By the establishment of a convalescent hospital in connection with an acute one, this source of danger might be prevented, and the otherwise resulting good would be most marked. Perhaps it would be felt more in scarlatina than in diphtheria. After such acute inflammation, and often necrosis of the mucous membrane as we have in scarlet fever, children sent to poor homes and bad attendance are very liable to have chronic mischief in this tissue established. It may be in lungs or kidneys, but very frequently the tonsils continue enlarged, the mucous membrane of nose thickened, and ear mischief, with its attendant grave conditions, follows later on in life. Thus, by insufficient care after the acute stage of the disease is over, the life of the patient may be seriously affected, indeed, made shorter, by what may have been at first only a slight attack of diphtheria or scarlatina.

Protection of Attendants.—Experiencing so often the showers of secretion a child may suddenly cough in one's face while its throat is being examined, and alive to the danger of such an accident, I have made it a custom here for a long time to have in the lobby of the ward an ordinary respirator, into which a piece of fresh alembroth gauze is put before entering the ward. This apparatus protects the mouth and nose, while the eyes are protected with glasses, and allows of an examination being done with more care and confidence. In performing tracheotomy, the feeling of safety conveyed by its use renders the doing of the operation much easier and more pleasant.

The point that now arises for consideration is the *treatment* of diphtheria. This varies very much with the kind of diphtheria treated, as there are cases which do perfectly well without anything. In such there is little or no enlargement of the tonsils and only slight congestion of throat structures. On the tonsils or the posterior wall of the pharynx there is a slight formation of membrane, but it is limited in extent and depth. The membrane necroses, the slight inflammation in the mucous membrane resolves, and, perhaps without any rise of temperature or albumen in the urine, the patient is again quite well in a few days.

E. H., æt. 6, admitted 15th September, 1893, was a case of this kind. Membrane was confined to the posterior wall of pharynx. Urine free from albumen. Temperature, 100·6°. His two brothers were admitted at the same time—one, with malignant diphtheria, died; the other had a very sharp illness, but recovered. This patient (E. H.) was dismissed in a healthy state, with a normal throat, nineteen days later, nothing having been done for him.

But, unfortunately, the treatment of diphtheria is not always such a simple matter, although in almost every number of a medical journal some one is writing about a new discovery by which "they have never lost a case." Cases vary, however, and at present we cannot look to anything as being a specific against diphtheria.

Opinions differ regarding the development of diphtheria. The old idea, going back to the time of Aretæus (Sanné, p. 417), that diphtheria was primarily a local disease, becoming general by the absorption of septic products, is the one that is still held on the Continent, though the accepted British opinion seems to be that it is primarily a constitutional disease, with a secondary local manifestation in the throat. That it is first

local, if not proved, at least gets strong support from the following observations:—

1. That the first complaint the patient makes is usually that of sore throat.

2. That until membrane has appeared on the throat, or the inflammation stage has been established for some time, there are no symptoms of depression.

3. That none of the cases admitted here on the first day of illness had then albumen in the urine.

4. Where the tonsils had been removed on the first day of illness, microscopical examination showed deep congestion of the sub-mucous tissue, abrasion of the mucous membrane, with considerable exudation of round cells, evidently the first indication of commencing membrane.

5. That when the apparent growth of the bacilli was checked, in the way to be discussed later, albumen did not appear in the urine, and the commencing constitutional symptoms, such as rise in pulse-rate, disappeared.

6. Both in scarlet fever and in diphtheria we have all grades of constitutional involvement. In some it is very slight; in others it is entirely wanting. This may be due to insusceptibility conferred by a previous attack, or it may be a natural insusceptibility. But even though this exists, it does not prevent a local lesion, in the shape of a sore throat, occurring in those who are in attendance on patients suffering from these diseases. In these cases the infective elements of the diseases under consideration are capable of producing their local manifestations, while the system protected by nature or a previous attack does not suffer. In connection with this, it is interesting to note that some observers say that in secondary vaccinations the manifestations are purely local.

What is held as a strong proof of the primary constitutional affection is the appearance of membrane on any local sore that may exist on the skin—the poison in such cases being carried by the blood. But this would seem to be, instead, a strong argument in favour of the primary local affection, because—

1. No bacilli are found in the blood.

2. In vaccination we could inoculate different parts of the body, and all would take.

In the same way, by inoculating at the same time an abraded mucous membrane covering the tonsil and an abraded epidermis covering the hand with the poison of diphtheria, we would have local concurrent manifestations in these situations. Hence, instead of epidermic diphtheria being the result of constitutional involvement, it is more likely that the local

wound, being exposed in the same way and at the same time to the poison, becomes inoculated and shows corresponding changes. But whether first local or first constitutional, the throat condition must bulk largely in treatment.

The old French treatment of Bretonneau, Trousseau, and Guersant—that of applying strong hydrochloric acid to the membrane—now seems to have fallen out of use. No doubt it would burn the membrane, and perhaps check the disease, but in doing so it would kill the living tissue-cells at the same time. Trousseau claimed that its action went no deeper than that of other caustics, but in the mouth of a child its use requires the greatest care, and (especially in children) the danger of touching the epiglottis and causing sloughing is very great. The only two cases of necrosis of soft tissues in diphtheria that I have seen have both been in cases where hydrochloric acid had been used. Such a complication is not uncommon in scarlet fever, but each of these cases had brothers or sisters in the hospital at the same time, and all suffered from well-marked diphtheria. Attributing these unfortunate occurrences to the use of hydrochloric acid, its use, as well as that of all other caustics, was discontinued.

Others, again, holding the disease to be purely constitutional, and the local affection to be due to the attempt nature is making to throw off the poison by means of the gland structures in the throat, say that the local sore must not be touched, but that all treatment must be constitutional.

No doubt, were the strength well supported, in time there would be putrefactive changes in the throat which would cause the separation of the membrane. But granting, for the time being, the primary constitutional theory, it is this very putrefactive change which we have got to fear. In scarlet fever it is not rare to see cases where, on account of sloughing of the throat structures, a distinct septicæmic rash is produced. It appears chiefly on the extensor surfaces of the knees and elbows, but may be all over the body, and is composed of varying sized patches, slightly raised, and of a bright stained-looking red colour. At the same time there is a profuse diarrhœa, difficult to control, from the swallowing of these discharges.

In diphtheria similar phenomena appear. We have the septicæmic look of the patient, the diarrhœa, and the rash. This differs, however, from the septicæmic rash of scarlatina, and resembles very much, if it is not identical with, the septicæmic rash in puerperal cases. It appears on the palms of the hands as a marling or mottling, is not at all raised, and

is of a bright red colour with a bluish tinge. This was very well shown in the case of M. D., admitted with a very severe attack of diphtheria. There was a thick coating of yellow membrane on throat, and on the palms was present the rash above described. Tracheotomy had to be performed, but fifteen days later she died from sloughing of trachea below the seat of incision. The diarrhoea in this case was, from the first, a very grave feature.

C. S., æt. 5, was admitted on the 18th February. Throat showed tonsils much enlarged and congested, with membrane on their surfaces. On the palms was a well marked septicæmic rash. She made a good recovery.

From the above we see that there is absorption of putrefactive as well as of diphtheritic products, and hence the necessity of local as well as constitutional treatment.

Another favourite method of procedure is the employment of agents to dissolve the membrane. But surely this method cannot be founded on a scientific basis. Their chief action must be directed against pharyngeal membrane, and the time that elapses between their application and the separation of the membrane is probably not shorter than the time it would take the membrane to separate naturally, while during all this time the absorption of diphtheria poison and putrefactive products would be going on uninterruptedly. Given in steam sprays the alkalies are no doubt useful, but the employment of stronger agents raises the question whether they may not irritate the mucous membrane of the bronchi and alveoli.

The favourite and most scientific method of treatment is undoubtedly the employment of antiseptic or germicidal solutions to the throat. Dr. Watson Cheyne advocates the free removal of the membrane, and the application of strong bichloride of mercury (1 to 500) to the throat. This method has been much tried here, and been found very successful. But, considering the pathology of the disease, the question arises—Is this sufficient? The diphtheria bacillus chooses for the seat of its growth organs containing the lymphoid tissue; and, in proportion to the depth of that tissue, the membrane formed and the constitutional involvement will be the greater. The largest collection of such tissues is in the faucial tonsils. The naso-pharyngeal tonsil is also a favourite seat, and next in frequency to be affected are the laryngeal tonsils (of Hill). In *post-mortem* examinations it is interesting to see how often in the latter situation there is membrane present, when it can be detected in no other part below the epiglottis, or how it sometimes hangs like a column from this region. Microscopical

examination of a tonsil covered with membrane reveals a very great involvement of the tissue, and the membrane would seem to penetrate into the crypts of the tonsil, and even into the tonsil substance itself. Hence it will be seen how little good could be accomplished by the application of antiseptics to the surface of a tonsil, when deep underneath the propagation of bacilli, and the absorption of their products, were going on unmolested.

To counteract this, for a considerable time the practice here has been to remove this excess of lymphoid tissue—to excise the tonsils even in the acute stage of diphtheria; and it is to Dr. Macintyre, Glasgow, that I am indebted for the suggestion. In France Bouchut was the first to remove the tonsils in such cases, but this treatment does not seem to have been accepted. To quote the words of Sanné—"This practice should be classed with cauterisation. Its object is the same. It undertakes to destroy the mischief on the spot, and to prevent infection of the economy."

"The false membranes were said not to be reproduced upon the wound on the tonsils. Notwithstanding certain fortunate cases reported by several physicians, this therapeutic method has had no other result than to give a denial to the theory it should have sustained."

In Britain Dr. Lennox Browne first advocated this measure ten years ago, and Lefferts (in the *Archives of Laryngology*, vol. ii, p. 82, New York, 1882) gives results of this method of treatment.

The reasons Dr. Browne gives for treating cases in this way are the following:—

"a. Removing an impediment to respiration.

"b. Tending to prevent the downward progress of the exudation.

"c. As an early substitute or means of averting the necessity for the more dangerous measure of opening the windpipe."

As will be seen, the idea has been chiefly with the object of assisting breathing.* But there are other and stronger reasons for acting thus—

1. If the disease be limited to the tonsil, you can cut the infected part away, as you would, in bacteriological work, cut the inoculated part of a potato away, to prevent the whole substance becoming infected.

2. The disease spreads deeply into the crypts and substance of the tonsil, and though the membrane be removed, dissolved, or burned, the progress of the disease, which is deeper, is unchecked.

3. After the infected part is cut away, strong antiseptic or germicidal solutions can be directly applied to the cut surface (beyond the infected area), which will prevent the further propagation of any bacilli.

4. The first indication of membrane is usually upon the tonsil. If diphtheria begins locally, as it seems to do, then the infected part can be cut away before absorption begins.

5. The local depletion seems to do a great deal of good, by causing a subsidence in the swelling of the parts around.

6. Dr. Browne mentions the relief to breathing, and the prevention of the spread of the membrane downwards, due apparently to the greater straining for breath causing the drawing in of loose pieces of membrane or secretion, which inoculates the mucous membrane in the larynx and trachea. But if membrane is already in the larynx, causing dyspnoea, then the removal of the enlarged tonsils will take away some of the difficulty, and help to conserve the patient's strength.

7. The fact mentioned by Dr. Gresswell, that enlarged tonsils after diphtheria, when they become inflamed are capable of giving diphtheria to others.

8. The relief the patients usually feel after the removal of enlarged tonsils or oedematous uvulæ—the feeling as if a foreign body had been removed from the throat.

At first sight several *objections* to this method of treatment may be raised—

1. That there will be a large fresh surface left, forming suitable soil for the growth of the bacilli.

2. That the raw surface, with its open lymphatics, will allow of much greater absorption taking place.

Neither of these objections seem to be sustained by the records¹ of thirty-three cases so operated upon.

As regards the first (1), the actual experience gained by observing these cases shows that in many cases membrane did not re-form, and that if it did, it was never in any case equal to what it had been before. Another thing we have got to take into consideration is the natural outpouring of fibrin, which might in such cases be mistaken for membrane.

Regarding the second objection (2), if increased absorption did take place, certain results would follow—

a. There would, in all probability, be a rise of temperature, and certainly so if there was an absorption of putrid material.

b. Apart from the quickened pulse-rate due to pyrexia, there would be greater frequency, greater weakness, and perhaps

¹ These records were given in detail as an appendix to the Thesis, but are now omitted.

irregularity of pulse, due to the specific action of diphtheria poison on the heart.

c. There would be the appearance of albumen in the urine if it were previously absent, or an increase in the quantity if it were present before.

d. There would be a greater chance of nervous sequelæ following.

It has, however, been my experience that in no uncomplicated case was there a rise of temperature, whereas in many there was a decided fall. In the case of C. M'L. there was at first a distinct fall, but a subsequent rise, due apparently to the onset of a slight bronchitis. In the case of T. A. there was also a rise of temperature, but this was concurrent with the commencement of the disease in the other tonsil.

Unfortunately the pulse-rate was not preserved in the first few cases, but the striking feature in all of them was the marked improvement which generally took place.

The appearance or the increase of albumen in the urine is perhaps the most valuable guide of all. In this connection, of the more important cases may be mentioned :—

On the 27th January, 1894, J. C. was admitted, suffering from malignant diphtheria, and on the 29th he died. On the 30th his two sisters, B. and N., were admitted, on their first day of illness. Their tonsils were enlarged and congested. These were at once excised, and equal parts of carbolic acid and glycerine were applied to the cut surfaces. Their urine, which was free of albumen before operation, remained so throughout. The pulse of the former, which on admission was 152, was next day 116; and her sister's, which before operation was 134, was next day 100. Microscopical examination of the tonsils revealed abrasion of the mucous membrane with general congestion of the tonsil substance, and exudation of round cells along the epithelial edge, but particularly at the abraded parts.

Another interesting case was that of J. S., whose sister had a very typical attack of diphtheria. He also was admitted on the first day of illness; temperature, 101·8°; pulse, 128. Next morning, temperature 104°, and pulse 140. Urine contained no albumen. At this stage the tonsils were thoroughly scraped with a sharp spoon, and strong carbolic acid with glycerine applied. Temperature in the evening had fallen to 101·4°, and pulse-rate was 112. Next morning, temperature below 100°, remaining afterwards normal, with pulse-rate corresponding. No albumen appeared in the urine.

In the case of C. M'L., admitted on the fourth day of illness,

the urine was distinctly albuminous on the day of operation, but next day only a trace was present.

L. G., æt. 10, was admitted on the 3rd March, 1894, on the second day of illness. A specimen of urine, got just before operation, showed distinct albuminuria. Next day only a trace was present. On the 6th only a faint trace was noted, and on the 7th the urine was quite free from albumen.

The case of W. M., admitted 20th February, 1894, on the sixth day of illness, was the only one where albumen appeared in the urine after operation. On the third morning after operation (sixth day of illness) the urine was found to be slightly albuminous, but the quantity was never beyond a trace, and soon disappeared.

The remaining objection that might be urged is fear of paralytic symptoms supervening, but not one of the thirty-three cases so treated ever showed the least sign of neuritis.

Hence, however great the theoretical objections may be to this method of treatment, it will be seen that such are not sustained in actual practice.

But why should there be grounds for objection? The diphtheria bacillus seems to select, for the seat of its propagation, lymphoid tissue. If this be in the tonsil, the excess is cut away, the soil made shallower, and a germicide applied. If on the pharyngeal wall or palate, its favourite tissue, being only mucous membrane deep, can be exposed by scraping off the epithelium, and again a germicidal action can be had directly at the seat of activity of the virus. By the application of strong carbolic acid or strong solution of perchloride of iron a layer of coagulated material is formed over the cut surfaces, which protects it until granulation begins and the natural resistance of the parts to the invasion of disease becomes much greater.

Then, as regards absorption, why should it occur? The application of strong carbolic acid appears to speedily stop bleeding by its power of coagulating albumen. If its action is enough to seal up the cut ends of blood-vessels, it is surely enough to seal up the open mouths of lymphatics, the film which is formed protecting against such absorption taking place. This method, being thoroughly antiseptic in its aims, gets rid of the chance of absorption of both the diphtheria products and the putrefactive materials.

As regards results. Thirty-three patients were treated in this way, and of these six died, giving a death percentage of 18·1. The death-rate in the hospital for a considerable

number of years has been a little over 40 per cent.¹ It is a generally admitted fact that whenever there is great enlargement of the tonsils in diphtheria the prognosis is the less favourable. To again quote Dr. Lennox Browne—"All who have any experience of the disease (diphtheria) must be aware, not only how prone are the subjects of enlarged tonsils to succumb to diphtheritic influences, but also to what a serious extent the existence of such a condition complicates matters and imperils the chances of recovery."

The cases here recorded comprise all that could be treated in this way, and the above quotation classes these as being of a specially bad character. Although the number of cases is too small to draw great conclusions from, yet the death-rate of 18·1 per cent would seem to compare very favourably with the usual death-rate from diphtheria. Reference might be made to the fatal cases to show how intensely grave all of these cases were on admission:—

W. A. was admitted with marked pharyngo-laryngeal diphtheria. After the removal of the tonsils the breathing was vastly improved, but the amount of membrane in the larynx at length called for tracheotomy. The autopsy showed clean, healthy, cut surfaces on the tonsils, with great involvement of the larynx and trachea.

The condition of J. F. was much the same as that of W. A., only the laryngeal involvement was so great as to call at once for tracheotomy, even after the tonsils had been removed. *Post-mortem* examination revealed that the membrane had extended to the smaller bronchi.

A. R. also had on admission distinct pharyngo-laryngeal diphtheria, of a type approaching the true malignant kind, and died of syncope at the completion of tracheotomy.

When admitted T. M'I. was suffering from very marked malignant diphtheria. He had an earthy, livid colour, with an acrid discharge from nose, a very foul throat, extreme difficulty of breathing, and a very much swollen neck. Tracheotomy—with almost no hope of ultimate recovery, but only to relieve the great distress of breathing—was at once performed, and a large quantity of membrane was expelled through the wound. Next day the tonsils were removed, and, although he died a day later, the only appreciable change after the tonsils were removed was the less swollen and much cleaner look of the throat.

In the case of M. S. there was also marked laryngeal involve-

¹ For diphtheria.

ment, with membrane covering the pillars of fauces, tonsils, soft palate, and uvula. From the ready extravasation of blood into the tissues on the slightest pressure, this case seemed to approach the hæmorrhagic type, and admitted of almost no hope from the time of admission.

P. M'C. was admitted on the 27th February, 1894, suffering from well marked malignant diphtheria. There was distinct naso-pharyngeal involvement, the uvula and soft palate being pushed quite forward. The tonsils and pillars of the fauces were greatly enlarged and deeply congested. Their surfaces almost touched, and lying in the chink between them was the very oedematous uvula. Over all was a covering of thick necrosing membrane, the smell issuing from the throat being of an almost unbearable character. There was no great difficulty of breathing, though he could only speak in whispers, but, from the huge casts of membrane got up, there must have been great laryngeal and tracheal involvement. The neck was much thickened, the glandular and connective tissues being much infiltrated. The pulse was very poor. After part of the right tonsil and enlarged uvula were cut away, he expressed himself as having got great relief. Next day he was considerably better, but the improvement was short-lived, and two and a half days after admission he died.

Hence it will be seen that in none of these cases was the result other than what was to be expected from the first. In none of them could the operation be said to have done harm, while in all it conferred, at least, a temporary benefit.

As regards general treatment, it is to be added that there was usually prescribed a mixture of perchloride of mercury, digitalis, and infusion of senega. Stimulants were given freely, and sprays in all cases where there was any laryngeal mischief.

But the object of this paper was to show the satisfactory results gained in treating diphtheria by excision of the tonsils. In no case has there ever been the slightest cause for regret, and, looking over the year's work in diphtheria, I have no hesitation in saying that it has been the most satisfactory treatment which I have had the privilege of watching here.

THE EARLY DIAGNOSIS OF FŒTAL HYDROCEPHALUS.¹

By THOMAS W. JENKINS, M.A., M.D.,
Surgeon for Diseases of Women to the Dispensary of the Victoria
Infirmary, Glasgow.

FŒTAL hydrocephalus, so extreme as to be an insuperable obstacle to labour, is rare enough to justify the exhibition of a typical specimen, and important enough to warrant a brief description of any case that may occur. The early diagnosis of this condition, even when moderate and the head presents, is admittedly difficult; when extreme and the breech presents, it is often impossible. Yet, under all circumstances, it is most desirable, for too often fœtal hydrocephalus leads to rupture of the uterus.

The case which I had an opportunity of observing—it happened a few months ago in Dr. E. Duncan's practice—itself calls for little comment. Spontaneous rupture of the membranes occurred early. Five hours later the cervix was obliterated, the os uteri dilated to half its extent, the lower uterine segment much distended, and the presenting breech in the cavity of the pelvis. After a further interval of four hours the body of the child was born, the cord pulsating feebly. The head remained *in utero*, and resisted all attempts at delivery. Within a few minutes the child was dead.

On introducing the hand into the uterus, the cause of the delay became apparent. Dr. Duncan thereupon perforated. Slight pressure on the uterus sufficed to expel the head. The puerperium was normal.

It is, however, to the results of abdominal examination, though misunderstood at the time, that I would direct attention. During labour, the distension of the abdomen suggested multiple pregnancy. The patient too, thought this not improbable, for she came of a prolific family. Herself a twin, her mother had borne twins twice, a sister once. But prior to the birth of the body, it was impossible to detect in the cavity of the uterus anything corresponding to the fœtal head. *Ballottement* could not be obtained, nor was it possible anywhere to ascertain the presence of *small parts*. On the other hand, by pressing downwards the fingers immediately above the *symphysis pubis*, a depression or groove could be felt, like that which is usually observed in cephalic presentations, when

¹ Read at a meeting of the Glasgow Southern Medical Society, 17th May, 1894.

the head occupies the cavity of the pelvis. And again, increased resistance to palpation was perceived over considerable areas in both iliac regions, and at the fundus, caused, as afterwards became apparent, by the subjacent greatly developed flat bones of the foetal head; while over the remaining area the sensation imparted to the fingers resembled that which is obtained from a cyst highly distended with fluid. Foetal heart sounds were nowhere audible. The birth of the trunk was followed by no material diminution in the size of the uterus, and by no alteration in the conditions I have just described.

These conditions, I venture to think, might have been of diagnostic value. *Hydramnios* and *multiple pregnancy* had, of course, to be excluded, but the early rupture of the membranes told against the former, the absence of various *parts* against the latter.

Hence, given a breech presentation, with nothing in the uterine cavity yielding *ballotement*, no indication of the presence of *small parts*, large areas of increased resistance to palpation at various parts of the uterine surface, and absence of foetal heart sounds—the presumptive diagnosis is foetal hydrocephalus.

DISEASE OF KNEE-JOINT WITH DISTORTION TREATED PARTLY BY ERASION AND PARTLY BY EXCISION.

By WILLIAM ANDERSON, M.D.,
Heart's Content, Newfoundland.

In June, 1889, C. T., then aged 6 years, caught his right leg between two boulders and wrenched the knee. Pain and swelling followed, and four months later pus is reported to have been discharged at a point slightly above the level of the knee-joint. Night pain began before this period, and continued, unless when relieved by morphia draughts, up to 4th July, 1892. At that date flexion of the leg on the thigh was so considerable that in standing the toes barely touched the floor, and there was every evidence of disorganisation of the knee-joint. It was possible to pass the fingers under the articular surfaces of the thigh-bone owing to recession of the head of the tibia.

Erasion seemed likely to meet all requirements, but on

raising an anterior half-moon flap in front, involving the ligamentum patellæ, such a condition of cartilages was found that mere clearing away of diseased synovial membrane did not seem sufficient to meet the needs of the case.

It should here be stated that division of the hamstring tendons was freely carried out, as the first part of the operation, so that re-apposition of the articular surfaces might more readily be effected. The whole femoral epiphysis was enlarged, and in the outer condyle was an area of softening, covering a small abscess cavity. The cartilages were wasted, and in great part detached. The tibial covering might be similarly described. The semi-lunar cartilages were not recognisable. After free use of Volkmann's spoon, an attempt was made to straighten the limb. On failure, division of the lateral ligaments was tried without result, and removal of the crucial ligaments was equally useless. The spine of the tibia was then gouged away, after which the head of the bone could be moved slightly forward. An attempt at approximation of joint-surfaces was again made, but no justifiable strain would effect it. Then came the question of amputation, but to avoid that a considerable shaving from the femoral epiphysis was made with a Butcher's saw, and the head of the tibia was similarly treated. A straight limb was then obtained.

To ensure perfect rest the patella and its ligaments were cut out. Wiring was not thought of. A back splint, with foot piece, of poro-plastic felt was applied after all wounded surfaces had been freely washed with a strong boric acid solution and ingrained with iodoform. The wound was closed with horsehair stitches, between which were placed a few slips of guttapercha tissue for drainage. Iodoform was dusted all over the joint externally, which was afterwards covered with carbolised gauze.

Recovery occupied fully twelve months, without any untoward sign, without any particular change of treatment, and with freedom from pain.

Up to date it has been impossible to detect the slightest shortening. Rigidity is complete, and there is every reason to suppose that fusion of the opened epiphyseal surfaces has taken place. The patient is able to walk considerable distances without discomfort.

In the accompanying photographs¹ the rear view shows the patient standing perfectly level. The same illustration shows what fair apposition it was possible to obtain. The front

¹ These are not here reproduced.

view is less pleasing, owing to the expansion of the condylar extremity that had taken place during the existence of the abscess, and also to the excessive new formation that took place on the external condyle after the clearing out of the abscess cavity.

During healing short side splints were applied over the dressings and bandages, and secured by tapes, and the limb was swung by means of an extension pulley leading from a fillet passed round above the ankle. To prevent canting, cords secured to nails acted as guys, and the thigh was readily kept down by a band of sheeting passed over it under the sound limb, and weighted at the ends.

To all appearance this case, which had to be passed over the line dividing erasion from excision, and made to partake of the features of both, gives ground for hope that careful use of the saw and gouge may, in childhood and youth, give useful limbs in instances beyond the reach of erasion, and in which it has been the practice to amputate.

CORRESPONDENCE.

THE MALIGNANT TRANSFORMATION OF BENIGN LARYNGEAL TUMOURS AS A CONSEQUENCE OF ENDOLARYNGEAL OPERATIONS—A REJOINDER.

To the Editors of the "Glasgow Medical Journal."

SIRS,—I observe with some surprise that, notwithstanding the wealth of clinical material available for your always interesting journal, you have paid me the high compliment of giving prominent insertion to a quite unnecessary letter from Dr. David Newman, charging me with sundry literary misdemeanours, which he asserts are to be found in an article on "Deformities and Morbid Growths of the Larynx and Pharynx," furnished by me to Burnett's *System of Diseases of the Ear, Nose, and Throat*, and published in America something like a year ago.

The rejoinder is so simple that it is only out of respect to you and your readers, amongst whom I number many friends, that I make any reply at all, and, from a similar feeling of consideration for your space, I shall content myself with

answering only those of Dr. Newman's accusations that concern himself. They can be resolved into two.

First, as to any inaccuracy or misrepresentation on my part of Dr. Newman's writings.

Five and a half years ago he reported a case in another journal,¹ to which you generously give fresh publication. It was that of a laryngeal tumour in which the history and the subjective and objective symptoms all "favoured the diagnosis of an inflated² (*sic*) papilloma." The microscopic appearances of a removed fragment were those "of a papillomatous adenomata³ (*sic*), without the least suspicion of the structure of an epithelioma." A larger portion is removed shortly after, of presumably an equally innocent character, though the report is silent on this point. Following this second operation a diffuse swelling appears in the neck, and seventeen days later, on subsidence of the swelling, two enlarged lymphatic glands are revealed, one on either side of the thyroid cartilage, and the case, now decided to be an epithelioma, terminates fatally at a date not named.

Dr. Newman complains that, in my abstract of his report, for the word "believed," as applied to the innocent character of the first specimen, I have "substituted the term 'demonstrated,' therefore" (may I venture to substitute here the word "thereby?") "altering his meaning entirely."

It is characteristic of Dr. Newman that in his letter to you he makes light of the value of microscopic examination of a removed fragment, notwithstanding that in the communication containing this case he dwells strongly on its importance "for the purpose of arriving at an early and reliable diagnosis," than which, in a later published essay,⁴ he says "there is no method more certain;" and with regard to Dr. Newman's denial that there was any "relationship between the operation and malignant transformation," I find in his later account of this same case⁵ that he removed the second larger portion of this particular tumour "under the belief" (founded on his certain method) "that the disease was benign, and that it might be removed by an intra-laryngeal operation."

I leave it, Sirs, to you and your readers to decide whether the substitution by me of the word "demonstrated" for that of "believed" is an unjustifiable alteration of "the wording of

¹ *British Medical Journal*, 1889, vol. i, p. 133.

² *Ibid.*

³ *Glasgow Medical Journal*, June, 1894, p. 432.

⁴ *Malignant Disease of the Nose and Throat* (Edinburgh, 1892), p. 102.

⁵ *Op. cit.*, p. 103.

Dr. Newman's report to suit my own ends, . . . therefore altering his meaning entirely." Whether, indeed, on the other hand, I am not fairer to Dr. Newman than he is to himself in assuming that his "belief" was the result of a lively faith in evidence "demonstrated" by a method than which, he asserts, none is "more certain," instead of being merely the expression of a baseless credulity.

Secondly, Dr. Newman asserts that I have no right to claim him as an adherent of the opinion expressed by me "that such simple laryngeal growths as an adenoma or papilloma may be, by surgical interference, transformed into a malignant tumour" (not desiring to "alter" Dr. Newman's meaning, I make no attempt at a "correction" of his English).

My reply is that I have such a right, not only on a reasonable interpretation of the foregoing case, but on that of the repeated and deliberate utterances of Dr. Newman himself.

Can Dr. Newman have forgotten the Discussion on Cancer, opened by the chief of your editorial triumvirate in 1886, at the Glasgow Pathological and Clinical Society,¹ in which he related three cases to "illustrate to you the FACT that such homologous growths as adenomata and papillomata may, by some perversion of their nutrition, develop into epithelioma or adenoid cancer"?

This statement is repeated in somewhat different terms in the essay printed six years later,² and granting with Dr. Newman that simple tumours can undergo such a transformation, it is fair to ask why operative procedure should not be allowed as at least one source of this "perversion of their nutrition," and especially since it is simply impossible to decide whether "growths which are homologous in their origin may at a later period of life become heterologous, and develop signs of malignancy," except by removal from time to time of portions for microscopic examination—that is to say, by "surgical interference," an element present in each of these three illustrative cases, as well as in the other previously noticed. It is necessary to push this matter home, and I must therefore ask you to allow me to quote Dr. Newman's account at length:—

"I have seen somewhat similar instances" (to a case quoted by Dr. Cameron), "and with your permission, Mr. President, I shall narrate three of them.

"The first I shall describe was a case of papilloma in the larynx. Six years ago the late Dr. Foulis removed a papilloma,

¹ *Glasgow Medical Journal*, vol. xxv, pp. 439, 440.

² *Op. cit.*, p. 106.

and within six months it returned and was again removed. It appeared once more, and was removed by myself. *All these specimens were clearly* (not were "believed" to be) "*papillomata, the epithelium showed no tendency to extend beyond its normal limit—that is to say, beneath the basement membrane.* About six months after the last operation was performed, on laryngoscopic examination I found a characteristic epithelioma involving the larynx and epiglottis, from which the patient ultimately died.

"The second case was exhibited to the Society at a meeting at the beginning of the session—an old man who was in the Royal Infirmary with a large tumour about the size of a walnut, situated at the base of the epiglottis. I showed the patient here, and at that time I believed the tumour to be an adenoma, and Dr. Coats agreed with me in that opinion. Subsequently I removed more than half of it by means of forceps, and as I removed the pieces I submitted them to microscopical examination. *The first portions of the growth presented the characteristics of a simple adenoma,* whereas the deeper portions, or those which were removed last, showed the structure of *adenoid carcinoma*, with unusually abundant stroma.

"The third specimen is one which I have in the museum of the Royal Infirmary. *The first growth, a papilloma,* was removed by Dr. Morell Mackenzie five years previous to the appearance of an epithelioma, which was diagnosed by my predecessor, the late Dr. Foulis, who performed laryngectomy."

Again, Sirs, I ask you and your readers whether I am not fairly justified in claiming that I have traversed the three points on which Dr. Newman desires to insist, for not only have I a right to claim him as an adherent to the opinions expressed by me, but also as an *author whose published facts* are consistent with the theory I have tried to demonstrate; and even if I have "failed to prove that a benign growth is likely to undergo malignant degeneration as a consequence of intra-laryngeal interference," I ask, in confidence of the answer, to what extent is my view supported or discounted by Dr. Newman's published utterances.

But I must go one step further. Dr. Newman, in the preface to his work on *Malignant Disease of the Throat and Nose*, says, with regard to the larynx—"The cases, eight in number, have been selected from a series of over fifty patients, and these are employed in the text to illustrate only special features in the disease." *Why were these three not included,* since none of the eight selected is used to illustrate this

special feature in the pathology of cancer of the larynx insisted upon by Dr. Newman as an article of faith but a few years previously?

This is not the occasion, nor am I in the mood, to discuss at Dr. Newman's bidding, other points raised by him on the general question; but this much may at present be said. Since I first drew attention to the subject, nineteen years ago,¹ many cases have been reported, which, having been diagnosed by competent and even eminent authorities as benign, have, after endo-laryngeal operation, developed evidences of malignancy. As an alternative to acceptance of my view, that such a result illustrates malignant degeneration due to instrumental irritation—in other words, to an “unduly increased formative excitability” (Newman), it has become fashionable for my opponents, amongst whom Dr. Newman must now be included, to plead guilty to an erroneous diagnosis in the first instance, nor is it for me to quarrel with the choice of horn on which they find themselves impaled. I am content to have had an opportunity of directing attention to the grounds on which I have claimed Dr. Newman as an adherent. He appears to have since recanted, and it is to be regretted that he did not do so in a more candid manner.—Yours faithfully,

LENNOX BROWNE.

15 MANSFIELD STREET,
LONDON, W., 15th June, 1894.

[We publish Dr. Lennox Browne's letter, but must at the same time express regret at its tone and method. Dr. Newman pointed out that Dr. Browne, in what he cites as an *exact* quotation, alters an important word, thereby changing the meaning entirely. Dr. Browne does not deny altering the word, and we are convinced that his contention that he has not altered the meaning is not made good. When an author who is citing a case as cancerous from the outset states that at one period he believed it to be innocent, it is altering his meaning entirely to substitute “demonstrated” for “believed,” and to make it appear that he still believes it to have been innocent at the time of the first examination.

Dr. Browne's further claim that Dr. Newman was at one time an adherent of the opinion that such innocent growths may by surgical interference be transformed into malignant

¹ “On the Treatment of New Formations of Benign Character in the Larynx,” *British Medical Journal*, 8th May, 1875.

tumours, seems to us to be equally devoid of foundation. The passages quoted by Dr. Browne from Dr. Newman's writings show that the latter believes in the transformation of innocent into malignant growths, but we have not discovered a single word favouring the idea that he ever believed that instrumental interference is an element in producing such transformation. The long quotations in which Dr. Browne indulges are thus entirely wide of the mark, and do not bear out his contention. We have made these remarks without consulting Dr. Newman, and simply to bring back the reader to the points in dispute which Dr. Browne obscures in a cloud of words.—EDITORS *G. M. J.*]

CURRENT TOPICS.

GLASGOW UNIVERSITY COURT—APPOINTMENT OF PROFESSOR OF PATHOLOGY.—A meeting of the Curators under Ordinance No. 20 (Glasgow No. 5), charged with the duty of appointing a Professor of Pathology in the University of Glasgow, was held in the Court-Room at the University on Tuesday, the 26th ult. Present:—Curators appointed by the University Court—Principal Caird, Professor Stewart, and Professor Gairdner; Curators appointed by the Western Infirmary—Dr. James B. Russell, Mr. William Ker, and Mr. J. H. Dickson; also, Mr. Henry Johnston, Secretary of the Western Infirmary, and Mr. Alan E. Clapperton, Secretary of the University Court. The appointments of the Curators were duly intimated. It was also intimated that, in terms of section 4 of the Ordinance, an arrangement had been made with the Directors of the Western Infirmary to the satisfaction of the Court for affording due facilities for teaching pathology. The meeting appointed Joseph Coats, M.D., to be Professor of Pathology in the University of Glasgow, the appointment to date from and after 1st October, 1894.

GLASGOW EASTERN MEDICAL SOCIETY'S PICNIC.—The annual picnic of this Society took place on Friday, 1st June, in the most charming of summer days. A goodly number of members were present, including Drs. Mather, Patrick, Burns, Patterson, Findlay, Miller, Munro, Wm. Muir, Barras, Wm. L. Muir, J. Buchanan, Wm. Buchanan, Service, Russell, M'Murray, M'Gregor, Black, Mathie, Dunlop, M'Lean, and Craig. The outing took the form of a Hunterian pilgrimage, first to the

Parish Church graveyard of East Kilbride, where the family burial place of the Hunters was visited, and the inscription on the flat tombstone was deciphered by the President, Dr. Mather, who has done so much in every way to make us appreciate and feel grateful to these two great Scotsmen—William and John Hunter. Resuming their seats in the brake, the drive was continued to Long Calderwood, the birthplace of the Hunters, on a rising gradient amidst woodland and pastoral scenery of the most beautiful description. At the house the party was photographed by Mr. Bell, of Glasgow, as a souvenir of the occasion. In continuation of the journey the party then went on to the Commercial Hotel, Hamilton, *via* High Blantyre, where they dined. After dinner the Mausoleum and Palace grounds were visited, and the drive continued to Cadzow Forest, Cadzow Castle, and Chatelherault, magnificent views of the banks of the Avon and surrounding country being obtained *en route*. Returning to the Commercial Hotel, Hamilton, in the evening, the company had tea, and came home by Bothwell and Uddingston to Glasgow. The excursion was thoroughly enjoyed by everyone present, and a hope expressed that such outings might be more common in future, in order to sweeten and brighten the lives of those who have to work seven days a week.

DR. JOHN MACINTYRE has been made a Fellow of the American Laryngological and Rhinological Association (Washington) and a Corresponding Member of the French Society of Laryngology and Otology (Paris).

BIBLIOGRAPHY OF THE DISEASES OF CHILDREN.—Messrs. J.-B. Baillière et Fils, 19 Rue Hautefeuille, Paris, announce that they are issuing a list of about 2,000 works on this subject, and that they will send a copy of the list gratis to any of our readers who may apply to them for it.

THE SANITARY INSTITUTE.—The preliminary programme of the Fourteenth Congress, to be held in Liverpool from 24th to 29th September, has now been issued. The meetings of the Congress will consist of three general addresses and lectures; three sectional meetings, dealing with (1) Sanitary Science and Preventive Medicine, (2) Engineering and Architecture, and (3) Chemistry, Meteorology, and Geology (presided over by E. Klein, M.D., F.R.S.; G. F. Deacon, M.Inst.C.E.; and Thomas Stevenson, M.D., F.R.C.P.); and five special conferences (The Sanitation of the Passenger and Mercantile

Marine Service, presided over by Sir W. Bower Forwood, J.P.; Medical Officers of Health, presided over by Charles E. Paget, M.R.C.S., D.P.H.; Municipal and County Engineers, presided over by A. M. Fowler, M.Inst.C.E.; Sanitary Inspectors, presided over by Francis Vacher, F.R.C.S., D.P.H.; and Domestic Hygiene, presided over by the Lady Mayoress of Liverpool). In connection with the Congress an exhibition of sanitary apparatus and appliances and articles of domestic use and economy will be held. Excursions to places of interest in connection with sanitation will be arranged for those attending the Congress.

The local arrangements are in the hands of an influential Committee, presided over by the Lord Mayor of Liverpool, with the City Engineer, Mr. H. Percy Boulnois, M.Inst.C.E., and the Medical Officer of Health, E. W. Hope, M.D., as Honorary Secretaries.

It appears from the programme that over 100 sanitary authorities, including several County Councils, have already appointed delegates to the Congress, and as there are 1,500 members and associates in the Institute, there will probably be a large attendance in addition to the local members of the Congress.

All information may be obtained from E. White Wallis, Esq., F.S.S., Parkes Museum, Margaret Street, London, W.

THE EIGHTH INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.—A British Committee, of which Sir Douglas Galton, K.C.B., F.R.S., is the Chairman, and Professor W. H. Corfield, M.A., M.D. Oxon., is the Treasurer, has been formed to further the interests in this country of the Eighth International Congress of Hygiene and Demography, which is to be held in Buda-Pesth from the 1st to the 8th of September this year.

Any information may be obtained about the Congress from the Hon. Secretary, Dr. Paul F. Moline, 42 Walton Street, Chelsea, S.W. We observe also that a party is being organised by Mr. Lunn to visit the Congress during its sitting. The cost of the whole holiday is twenty guineas.

THE EIGHTH FRENCH CONGRESS OF SURGERY will be opened at Lyons, at the Faculty of Medicine, on Tuesday, 9th October, 1894, at 9 A.M., under the presidency of Professor Tillaux, of Paris. Two subjects for discussion have been fixed upon—viz., (1) the Etiology and Pathology of Cancer; and (2) the Surgery of Rickets. Titles and conclusions of papers to be

submitted are to be sent not later than 15th August to M. L. Picqué, 8 Rue de l'Isly, Paris, from whom all information may be obtained.

INDIAN MEDICAL CONGRESS.—The objects of the Congress, to be held in Calcutta from the 24th to the 29th December, 1894, are to bring together medical men from all parts of the Indian Empire, to discuss medical subjects connected with Indian diseases, and to place on permanent record some of the work which is now lost to science for want of proper publication.

This Congress will afford an opportunity, never before presented, for medical men, who are in isolated but important positions in the different Provinces of the Indian Empire, meeting and comparing notes with their fellow-workers in subjects of mutual interest; former friendships could be renewed, and men who might never otherwise meet would become acquainted.

It is proposed that the work of the Congress should be divided into the following sections:—(1) Medicine and Pathology; (2) Surgery including Ophthalmology; (3) Obstetrics, and Diseases of Women and Children; (4) Public Health; (5) Medico-Legal Medicine and Insanity; and (6) Pharmacology, specially Indigenous Drugs.

Although the Congress is primarily an Indian one, invitations have been sent to medical men in other countries, some of whom have already accepted, and it is believed that many more will come.

A Special Committee has been formed to arrange for the accommodation of visitors, and to provide for their comfort. The Local Secretaries of this Committee are—Surgn.-Captain H. W. Pilgrim, General Hospital, Calcutta, and Dr. Prandhan Bose, M.B., Calcutta Medical School, Calcutta, to whom, or to the Honorary Central Secretaries, W. J. Simpson, M.D., M.R.C.P., and D. M. Moir, M.A., M.B., 5 and 6 Government Place, Calcutta, applications should be made for rooms. The price of accommodation in Calcutta may be taken from Rs. 7 to Rs. 14 a day for Europeans, and Rs. 3 to Rs. 5 for Indians.

Members are requested to notify to the Central Secretaries their intention to read papers and the titles of the same, which should reach the Central Secretaries not later than the 15th October, 1894.

The cost of members' tickets is Rs. 10. Members will be entitled to a copy of the "Transactions" on payment of an additional Rs. 10. Non-members may obtain the "Transactions" of the Congress on payment of Rs. 25.

REVIEWS.

An International System of Electro-Therapeutics, for Students, General Practitioners, and Specialists. By HORACE R. BIGELOW, M.D., &c., and thirty-eight Associate Editors. Philadelphia: The F. A. Davis Company. London: F. J. Rebman.

THIS huge volume, of more than eleven hundred pages, represents the united labour of a large number of contributors, and the result is such as was well worthy of being aimed at by those whose enterprise has produced it. Though the work professes to be international, it is scarcely surprising to find that the names of American writers bulk largely in the list of contributors. There are only nine who are not domiciled in the States—viz., two in Canada, two in England, and five in France. The pages are not numbered continuously, but in series, according to the subject-matter. Thus, beginning after the introduction, pp. A-1 to A-308 include five articles by different authors on Electro-Physics, on Animal Electricity, on Static Electricity and Magnetism, on Faradic or Induced Current, Electro-Magnetism, Electro-Massage and Instruments, and on Galvanism. Pp. B-1 to B-58 contain two articles on Electro-Physiology, and on Electro-Diagnosis. On pp. D-1 to D-14 we have a single article on Intestinal Occlusion treated by Electricity. Pp. S-1 to S-21 comprise the Index, which is in double columns of small print. The text of the work itself, however, is in excellent type.

The principal editor, who writes the preface, calls attention to the marvellous developments that have recently taken place in the domain of electricity. *E.g.*, he alludes to the suggestions as to the future of this science made by Professor William Crookes in the *Fortnightly Review*. The Professor thinks that, in the course of time, people at a considerable distance apart will be able to telegraph to one another without the use of wires. "Even now telegraphing without wires is possible within a radius of a few hundred feet." Then, again, the following is taken from a communication by W. S. Hedley to the *Lancet*:—"It is conceivable that our present electrical methods are on the eve of revolution, and that currents of high frequency and potential may eventually displace the three conversational forms of current ordinarily used in medicine." "It is well known that certain currents of high

frequency (500,000 to 1,000,000 or more alternations a second), strong enough to light lamps which, with ordinary frequency, require currents that are dangerous to life, may be passed through the human body without producing any very appreciable effects in the way of sensation or neuro-muscular phenomena in the shape of contraction." Such currents produce local analgesia, cause a marked fall in the blood-pressure, and promote perspiration. They exert an influence, also, over certain forms of micro-organisms.

The editor has done a new kind of service for medical men who are interested in electricity. He sent a circular to each of his associate editors asking him to state, on an accompanying form, the order of preference in which he held the various types of electrical appliances. The replies are tabulated by the editor—*e.g.*, in reply to the inquiry as to which is reckoned the best form of cell, nine votes out of twenty give the first place to the Leclanché. The Law cell is reckoned the best by three voters. By examining the voting papers we can get similar information with regard to static machines; coils; cabinet, portable, and cautery batteries; controllers, and finally meters.

The introduction, by William J. Herdman, deals with the Necessity for Special Education in Electro-Therapeutics. The first article of the work proper (Electro-Physics, by A. Wilmer Duff) is a very able, full, and interesting account of the science of electricity viewed as a branch of physics. The subject of Animal Electricity is discussed by Wesley Mills, who tells us, on the authority of Humboldt, that the direction of certain roads in South America had to be changed in consequence of the numbers of horses annually killed as they passed through the ponds inhabited by the electric eel (*gymnotus electricus*), the most powerful of all electric fishes. The morphology of an electric organ seems to be still uncertain. Physiologically, the electric plate or disc corresponds to the end plate of a motor nerve; yet, in the torpedo at least, the electric organ is not affected by curare, even though all the muscular nerve endings are paralysed.

Engelmann, in his very important article on Faradism, &c., gives due recognition to the wonderful investigations of Duchenne. "Barring trifling errors, and the illusions of the enthusiast, as the man must be who would succeed in any one sphere, the work of Duchenne still stands, at the present day, as the foundation upon which every method of localised electrization is based, and, I can but repeat, strange as it may seem, far in advance of the present *general* knowledge." The

mode of action of the Faradic current is discussed shortly. Our ignorance on this subject is great, but the author agrees with Stein in believing that the physiological effects of this current depend upon the mechanical vibratory action. Charcot's researches in "vibratory medicine" lend support to this view, and a case has been put on record in which facial neuralgia was cured by the communication of the vibrations of a tuning fork to the affected nerve. The author gives an account of his new instrument, which differs from all previous ones in some important details, of which we may mention one—viz., the separation of the vibrator or interrupter current from the therapeutic or inducing flow.

Bleyer's article on Galvanism contains a large number of illustrations, and is introduced by a most interesting history of this branch of electrical science.

Attention ought to be paid to Peterson's paper on Cataphoresis, or the introduction of medicaments by means of electricity into the body through the skin or mucous membranes, a subject which has given rise to hot disputes in the past. This is followed by a chapter which ought to be examined with the utmost care by every medical man into whose hands this work comes. The electrical treatment of intestinal occlusion is effected by means of an "electric injection." Tepid salt water, injected as high as possible into the rectum, is made, by appropriate arrangements, to constitute the anode of a continuous battery, the cathode of which takes the form of a large plate placed on the abdomen. The result of the injection is to stimulate the intestine, and in many cases to produce free evacuation. Peritonitis is not a contra-indication. Electrical treatment, of course, cannot cure all cases; but even though it fails, it does not put off surgical treatment till it is too late. But what are the results? Boudet of Paris, in 50 cases, had 70 per cent recoveries. The writer of the article, Larat of Paris, had 101 recoveries in 230 cases—say 44 per cent. These statistics may be compared with those of surgical treatment; the recoveries in the latter case are, according to Peyrot, 36 per cent, and, according to Schramm, 42 per cent. The writer recommends—"For a case of intestinal occlusion, having tried a purgative without any result, not to insist any longer, but immediately apply an electric injection. In twenty-four hours this will be recognised, successful or not. In case of failure, propose a surgical operation to the patient."

The Electrical Treatment of Fibroid Tumours of the Uterus is dealt with by Grand and Famarque, assistants at Apostoli's

clinic, so that those who desire it have here an account from authoritative sources of a much talked of department of therapeutics. It may be remarked that, to judge from expressions used by various writers in the present treatise, Apostoli and his methods are held by them in very high esteem.

As might be expected, abundance of space is given to the subject of diseases of women, to which eleven articles are devoted. Two chapters of the volume are headed by the names of ladies—"Facial Blemishes," by Henrietta P. Johnson, M.D., and "Electricity in Diseases of Childhood," by Mary Putnam Jacobi, M.D.

To discuss in full, however, each one of the articles in this magnificent treatise is obviously out of the question; but let us say that the work contains a vast amount of material which is not only of interest, but of great practical value. If only every practitioner could be supplied with electricity in a form which permitted it to be conveniently applied, at a slight cost, to any of the multitudinous purposes for which it is adapted, it would probably be far more extensively used.

Myxædema, and the Effects of Climate on the Disease.

By A. MARIUS WILSON, M.D., B.S. Durh., L.R.C.P. Lond.,
M.R.C.S. Eng. London: The Scientific Press, Limited.

THIS book is printed in large type, and on very thick paper. Indeed, the ratio between paper and subject-matter is so different from the usual as to remind us of a little mathematical treatise published by a former professor in Glasgow University. It consisted, we believe, of fifty-two pages of text, followed by ninety-two pages of advertisements.

We have noticed only two misprints in the present work. The first, curiously enough, is on the first page of the text, in the title of Sir William Gull's well-known article, the word "cretinoid" being spelt "cretenoid." The other is on page 29 ("effects" for "effect").

The first eight pages are taken up with the title, preface, and contents. Then we have, on pages 9 to 28 inclusive, a very fair *résumé* of our present knowledge of myxædema. This, however, looks as if it were a mere introduction to the remaining eight pages (29 to 36), which deal with "the effects of climate on the disease," a question only incidentally alluded to, on two or three occasions, in the earlier part of the work. The author says:—"The foregoing description of myxædema

relates mainly to cases as seen in this country ; and in speaking of the course of the disease, it was pointed out that patients were always worse, and the disease progressed most rapidly, during the colder months of the year. The converse also holds good: patients feel better during the warmer months, and the disease at that time is almost stationary. In the course of his experiments on animals, Professor Horsley found that, after total extirpation of the thyroid, the effect of warmth in prolonging life was most marked. The symptoms also took much longer to develop than in those cases where artificial heat was not resorted to.

“What I am trying to lead up to is this:—If the disease occurs in a tropical or subtropical country, where warmth is natural and not artificial, might we not expect to find cases of myxœdema very much slower in their onset and progress, and somewhat modified in their symptoms?” The author then relates *one* case—viz., that of a patient who had for long resided at the Cape, and whose illness was probably of at least ten years’ duration. The main features, according to the author, in which this case differed from those observed in colder climates were—“The much slower onset and progress, and the sensation of heat instead of that of cold.” The author attributes these differences to the altered climatic conditions. Now, although the patient complained much of the heat, and is said to have perspired “rather freely, except in the hands and feet,” it would appear that her memory was not to be relied upon. She said that during the milder months she did not feel the cold, and yet she wrote during the winter “that she has had to wrap up to an inordinate extent, and that even then her hands were so numbed with the cold that she could scarcely hold the pen to write.”

The author concludes by referring to four cases (presumably of myxœdema, though this is not stated) recorded in America, where heat was complained of more than cold. Yet of one of these patients who were worse in hot weather, it is asserted that he could not bear cold weather ; and of another, it is said that she was frequently chilly.

Now, no doubt the complaint of undue feelings of heat is very exceptional, but a study of the Clinical Society’s Report on Myxœdema (1888) will show that it is by no means unprecedented. With regard to the slow onset and progress, we shall quote from the report just mentioned:—“The progress of the disease is generally slow. Many patients, whose history shows they have already suffered from the disease, have remained for ten years or more under subsequent observation.

In many of such cases, periods of improvement have been observed, sometimes so marked as to suggest that the disease had been arrested. But actual recovery is noted in only one instance, and the survey of cases shows that myxœdema tends to shorten life" (pp. 33, 34).

The hope is expressed in the preface that this little book "may meet a want. To the recently qualified man it will not be of such service as the author hopes it will be to those who had left their *Alma Mater* in the pre-myxœdematous revival era; and he also hopes that it will be the means of throwing light on some obscure cases occurring in the practice of medical practitioners in the Colonies and in India."

The calmness of the following sentence, the last of this remarkable preface, impresses one:—"It is only fair to state that these pages were penned in the rough more than a year ago, though they were not publicly read until last August." This is dated November, 1893, and the Clinical Society's Report, as the author himself admits (p. 11), brought our knowledge of the subject up to date in 1888. It is, therefore, rather surprising that the author did not think it "only fair" to the future readers of his book that he should so arrange it before publication as to render an apology of this kind unnecessary.

The Common Forms of Dyspepsia in Women. By ROBERT SAUNDBY, M.D. Birmingham: Cornish Brothers. 1894.

THIS little book is a reprint of the Ingleby Lectures for 1894, an abstract of which appeared a short time ago in the *British Medical Journal*. Dr. Saundby's subject is one of very general interest, and refers to a class of patient with whom every practitioner is painfully familiar. He insists, with much justice, upon the neurotic origin of the majority of these cases, and points out that the ordinary stomachic drugs are inappropriate to their treatment. He emphasises the importance of the stomach-tube and the test breakfast as a means of diagnosis, and also lays stress on Ewald's simple test for atonic conditions by means of salol. If 15 grains of the drug be given an hour after food, it should be detected in the urine, by the perchloride of iron test, an hour and a quarter afterwards. If the reaction occurs later than this, and there is no evidence of pyloric obstruction, atony of the muscular wall must be present. He then describes the tests employed in the examination of the gastric contents. The results at which he arrives are (1) that the usual course of

feminine dyspepsia is as follows:—Atony, slight dilatation, fermentation, attacks of subacute gastritis, atrophy of the gastric glands, and permanent dilatation; and (2) that the causes of the initial atony are to be found in anæmia, overwork, worry, &c. A few illustrative cases are given. With regard to treatment, he lays stress upon rest and careful dieting. Where hysteria is a factor, isolation is required. Iron, strychnine, and saline aperients are the most generally useful drugs.

The book expresses, briefly and clearly, the results of a wide experience. Very few will be found to disagree with Dr. Saundby's conclusions, yet they are frequently lost sight of in practice. While recognising the importance of the stomach-tube as a means of diagnosis, we are inclined to think that he rather underrates the unpleasantnesses attending its use. He admits that the examination of the gastric contents requires more time than a busy practitioner can give, but suggests that this work should be regularly carried out in pathological laboratories. Altogether, the book is a sound and valuable contribution to our knowledge of a class of cases which is too frequently the object of an unsatisfactory routine of treatment.

On Failure of Brain Power (Encephalasthenia): its Nature and Treatment. By JULIUS ALTHAUS, M.D., M.R.C.P.
Fourth Edition. London: Longmans & Co. 1894.

ENCEPHALASTHENIA is the name which Dr. Althaus wishes to substitute for the somewhat vague term neurasthenia, to which his objection is that the nerves have nothing to do with the disease in question, every symptom of which can "be accounted for by tracing it to disturbance of the balance of force in certain areas of the brain." Undoubtedly, in his description of the symptoms, he makes out a very good case for this view of the matter, but it would appear that the new name does not cover everything that is included under neurasthenia, for on p. 78 he says that "railway accidents are more liable to give rise to hysteria, or to a combination of hysteria and neurasthenia (traumatic neuroses), than to a simple failure of brain power," thus preserving the older title he desires to supplant. The disease he describes is characterised by a fairly definite group of symptoms, indicating in one class of cases undue excitability, in another undue exhaustibility, of the various cerebral centres. He insists that these symptoms are as capable of localisation as those

of organic disease of the cerebrum, assigning, for instance, the various kinds of fear (agoraphobia, &c.) to disturbances of the emotional centres in the optic lobes and the pons. He argues that accurate localisation is essential to the proper treatment of the disease, and cites cases where the application of electricity, in accordance with this view, had a remarkably good result. He pleads also for a wider recognition of the fact that these patients are not *malades imaginaires*, but are really sufferers from a definite disease, curable, in most cases, by appropriate treatment.

The book opens with a historical *résumé*, followed by a chapter devoted to localisation, on which, as has been indicated, the author lays great stress. The causes of the disease are then discussed, the most important being heredity, worry, over-work, and prolonged mental strain. Then follows an account of the symptoms, which are subjective and objective. The subjective symptoms are manifold, but are all referable either to irritation or to exhaustion of one or other of the cerebral centres. The most constant of the objective symptoms are dyspepsia, irritative or atonic, and what the author calls the "urinary triad"—viz., low specific gravity, neutral reaction, and excess of phosphates. Tachycardia or spasmodic asthma may be present. With regard to the nature of the neurosis, much weight is given to electrical analogy, and the author inclines to think it due to increased resistance, either within the cell or peripherally, to the discharge of its nervous force. The diagnosis may be rendered difficult from the resemblance of the disease to the earlier stages of softening or tumour of the brain, general paralysis, hysteria, hypochondriasis, or the uric acid diathesis. The prognosis is in most instances favourable. Attention to the general health, and stimulation of the mental faculties are important. As to drugs, the most useful are the bromides, arsenic and strychnine, and cerebrine *a*, which Dr. Althaus considers to be "a nervine tonic of considerable efficiency." The constant current, applied at the part of the cranium corresponding to the seat of the disease, is of the greatest value.

That this volume has met the desire for more definite knowledge of a hitherto vaguely defined neurosis, is proved by its having attained a fourth edition. Dr. Althaus has done good service in maintaining that these patients are really the subjects of disease, and amenable to treatment. His account of the disease is full and clear. It is perhaps doubtful whether the term "encephalasthenia," which is somewhat cumbrous, covers all the cases hitherto known as "neurasthenia." It is

certain, at all events, that the latter is a very unsatisfactory designation, which it is most desirable to replace by something more definitely descriptive. It remains to be seen whether Dr. Althaus's term will be generally accepted. One might also be disposed to question whether the present state of our knowledge of nervous impulses would justify the expression of the relation of nerve force to resistance in a formula based upon Ohm's law ($B = \frac{F}{R}$, where B is the action of the brain-cell, F the force evolved, and R the resistance within the cell). Leaving these doubtful points aside, the book deserves only commendation. It is clearly written, and throws much light upon the subject of which it treats.

Sprains, their Consequences and Treatment. By C. W. MANSELL MOULLIN, M.A., M.D. Oxon., F.R.C.S., Surgeon to the London Hospital, Hunterian Professor at Royal College of Surgeons, &c. Second Edition. London: H. K. Lewis. 1894.

THIS volume, the work of a surgeon to whose scientific attainments his other published works bear testimony, is, perhaps from the nature of the subject dealt with, hardly fitted to add to the reputation of the author in original research. What the author sacrifices, however, the profession gains. This work, already well known, presents a very able account of a common and exceedingly troublesome class of injuries by a surgeon whose scientific training and methods enable him to invest the subject with fresh interest. The practitioner will find in its pages constant help in cases which not infrequently drift from doctor to doctor in quest of relief, and too often end in the hands of the "bone-setter."

Lectures on Genito-Urinary Diseases. By J. C. OGILVIE WILL, M.D., F.R.S.E., Consulting Surgeon to Aberdeen Royal Infirmary, and Examiner in Surgery in the University of Aberdeen. London: The Scientific Press, Limited. 1894.

THIS volume contains six lectures delivered by the author to his clinical class. These lectures deal with Urethral Fever, Retention of Urine, Gleet, Varicocele, Hydrocele, and the Treatment of Syphilis.

No attempt is made at exhaustive treatment of the subjects

dealt with, but the practical aspect of each is set forth with the clearness born of mature experience and thought.

As the work of a Scotch surgeon it is striking, and perhaps unique in its way. Dr. Will specifically recognises the position of Scottish urinary surgery as distinct from, and inferior to, that of the same branch of work in English, American, and Continental centres, and, in no uncertain words, urges the students of Aberdeen to follow the teaching of Schools other than the Scottish. We have repeatedly urged these views upon the serious attention of Scottish surgeons, and we heartily commend Dr. Will's progressive work to our readers.

In illustration of the teaching now so universal *out of Scotland*, and which Dr. Will so ably advocates in Aberdeen, we quote the following from our author:—

Speaking of *stricture*, Dr. Will writes—"I have long given my adhesion to the views held by nearly all French and American surgeons, and by many Englishmen, that, with suitable flexible instruments, results can be obtained with a degree of certainty, and with an absence of suffering to the patient, which are totally unattainable with stiff ones." And again—"I must, however, confess that when I first saw filiform bougies I regarded them with amusement; but the very first case where I used them engendered a very different feeling, and this, I doubt not, will be your experience if you will only try them."

In regard to the necessity for using full-sized instruments in dilating strictures of slight degree, Dr. Will says—"I here show you two instruments, No. 12 and No. 19, and I may tell you that the latter, elephantine though it may seem, is in reality much nearer the average size of the human male urethra than the former."

Discussing *urethral diagnosis*, the author writes, *re stricture*—"So far I have not said anything of the use of the urethroscope, and this omission is not due to a want of the appreciation of the light it may shed upon, and the assistance it may render in, a case of stricture, but simply because it must, for the present at least, be regarded as a luxury belonging to the specialist, and not likely to be found in the hands of an ordinary general practitioner." Further on, dealing with *gleet*, he says—"Cases will, however, be occasionally encountered where the only means of exact diagnosis will be found in the use of the urethroscope, . . . an instrument of the highest value, both as an aid to diagnosis and treatment;" and, after describing Von Antal's *Aerourethroscope* and its introduction into the urethra, he says—"If you now

look through the glass diaphragm a most satisfactory view of the urethra will be obtained."

Many other evidences of the sound "up-to-dateness" of the author's views might be quoted. With one other, however, we shall close this notice. Discussing the late Sir Andrew Clark's "Catheter Fever," Dr. Will insists on what has of late been becoming abundantly clear—viz., that that term really denotes a group of several distinct conditions, and not, as was supposed, a single pathological entity. The means he advises for preventing the occurrence of any, or all, of these different conditions are—the application of cocaine previous to instrumentation, the use of flexible instruments, gentleness in manipulation, strict asepsis, and partial evacuation only of the bladder when over-distended."

Difficult Labour: a Guide to its Management, for Students and Practitioners. By G. ERNEST HERMAN, M.B. Lond., F.R.C.P. London, Paris, and Melbourne: Cassell & Co. 1894.

IN his preface, Dr. Herman states that his experience has led him "to think that a book was wanted which should give the reader more definite guidance in practice than he gets from some, in other respects excellent, text-books of the present day." In this we cordially agree with him, and congratulate him on having produced a work which so admirably answers the purpose. His wide experience as a practitioner and teacher has peculiarly fitted him for the writing of such a guide. He does not attempt to give all the current opinions. He states his own conclusions clearly and tersely, and we all know how much more satisfactory this is than to have scraps served up to us from "a great feast of languages."

He strongly advocates external palpation and manipulation as means of recognising, and, if necessary, changing, the position of the foetus *in utero*. This is undoubtedly good advice, and it would be well if it were borne in mind by teachers. We wonder how many students have seen a posterior changed to an anterior position by external manipulation?

His chapters on the different forms of hæmorrhages are excellent. His methods of treatment are exceedingly good; but, while highly recommending direct transfusion of a saline fluid after severe hæmorrhage, he omits to mention that the fluid is quickly absorbed if injected into the rectum. Yet this is a point of some importance, as means are always at hand to

give a rectal injection, while one may not have a canula and tube to transfuse with.

We notice that, when treating of the causes of slow dilatation of the soft parts, he makes no mention of complete occlusion of the os uteri, cicatricial contractions of the vagina, or persistent hymen.

In discussing the forceps, he gives an elaborate description of the pendulum action. We were taught that forceps should not be used in this way, and our experience has confirmed this teaching. We think that he hardly does justice to the superiority of the axis-traction forceps. While recognising their value at the brim, he does not consider they have any advantages over the ordinary ones at the outlet. We venture to differ from the latter conclusion. The antero-posterior forceps for flat pelves are not mentioned.

In regard to turning, we are surprised that he should recommend that an arm be brought down first, and a tape attached to the wrist, in order to apply traction after the legs are brought down.

He gives a full and clear account of Cæsarian section and symphysiotomy. We venture, however, to question his statistics as to the mortality from the former operation. Five per cent is far too low. Surely, too, it is an exaggeration to say that "the mortality of craniotomy, skilfully done at the proper time, is not greater than that of natural labour." We think it a mistake to minimise the risk of such serious undertakings.

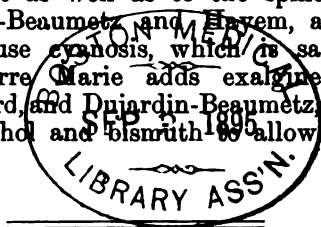
The book is well arranged, and profusely illustrated with excellent diagrams. It is a decided acquisition to the literature of midwifery, and we have pleasure in recommending it to all interested in the subject.

Johns Hopkins Hospital Reports. Vol. III: Report in Gynecology. Baltimore: The Johns Hopkins Press. 1894.

THIS elaborate and beautifully illustrated work must make one envy a hospital which can afford such publications. The illustrations, whether photographic or diagrammatic, are well executed, and the printing all that can be desired. Errata, instead of being printed together, are on slips inserted over the *corrigendum*, so that they cannot be overlooked. Among the contents are papers on Photography, Anæsthesia in Diagnosis, and a full account of all the fatal cases. Some of these will be referred to in the gynæcological abstracts of this *Journal*.

La Pratique des Maladies des Système Nerveux dans les Hôpitaux de Paris. Par PAUL LEFERT. Paris. 1894.

THIS is another instalment of the author's series of books, giving the treatment of various conditions in the different wards of the Paris hospitals. For instance, we find mentioned that for the lightning pains of ataxia, Charcot employed suspension; G. Sée prescribes salicylic acid; Dieulafoy, morphine and antipyrine subcutaneously; Debove, in addition, nerve-stretching; Joffroy, refrigeration, with the ether-spray applied to the painful spot as well as to the spine; Rigal, actual cautery; Dujardin-Beaumetz and Bayem, acétanilide (this last drug may cause cynosis, which is said to be of no consequence); Pierre Marie adds exalgine. In epilepsy Bourneville, Huchard, and Dujardin-Beaumetz, use picrotoxine. Féré gives β naphthol and bismuth to allow bromides to be better tolerated.



MEETINGS OF SOCIETIES.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

SESSION 1893-94.

MEETING VIII.—16TH MARCH, 1894.

OBSTETRICAL SECTION.

The President, DR. HECTOR C. CAMERON, in the Chair.

I.—SPECIMEN OF SUBSEROUS FIBROID OF THE UTERUS REMOVED BY OPERATION.

By PROFESSOR MURDOCH CAMERON.

Dr. Murdoch Cameron showed, as a fresh specimen, a large subserous fibroid which he had removed on the 13th March from a woman of about 32 years of age. At one part it showed cystic degeneration. The patient was doing well.

II.—CASE OF SIMPLE ENTEROCELE VAGINALIS POSTERIOR;
OPERATION.

BY DR. W. L. REID.

After referring to the great rarity of this affection, Dr. Reid gave details of the present case, which had been sent to him by Dr. Robert Steel. The history of it will be published elsewhere in full, and meantime is given only in outline. The patient was a stout woman of 54, who had had sixteen children. The first seven had been born naturally, except that in the second pregnancy she miscarried of one child at the fifth month, whilst its twin had remained *in utero* and been delivered alive at full term. Three days after the delivery there had been removed what had been alleged to be the placenta belonging to the foetus expelled at the fifth month. The remaining nine deliveries had all been by means of forceps, the last eight years ago. In 1883 there had first been noticed a protrusion from the vulva, which had subsequently developed into a tumour, quite the size of a foetal head, hanging between the thighs. This swelling had rather complicated the last pregnancy, but had disappeared shortly before full term, and had not interfered with delivery. It had, however, soon reappeared, and had since remained protruding in spite of everything done for its relief; it had, moreover, become ulcerated, and at the time of operation one or two deep sloughs had been present on its surface. There had also been gurgling on its being handled, and by manipulation the mass had been readily reduced. There had not been any indication of obstruction of the bowels or of peritonitis.

On examination, Dr. Reid had found that the cervix uteri was in its normal position, and that there was no cystocele and little or no rectocele. The perineum had been found destroyed as far as the anus.

Dr. Reid thought that it was most probable that the cause of the condition had been injury during labour.

Various methods of operation suggested for such cases were referred to. The method adopted had been by incision down to the peritoneum, by removal of a considerable portion of the other layers of the sac (so felted together as to be inseparable from one another), and then by bringing the edges together by closely set interrupted sutures. The perineum had also been restored. A good recovery had been made.

Dr. Samuel Sloan congratulated Dr. Reid upon the very successful result of his operation, as well as upon his good

fortune in having met with such an interesting case. He was surprised that nothing had been said about the condition of the posterior lip of the cervix, a tear of which might have extended backwards, and thus explained the state of matters present. He thought forceps the most likely cause.

Dr. Murdoch Cameron asked if the medical man who had attended at the birth of the twins had been communicated with. It would be interesting to clear up the statement made on that point, although it had no bearing on the present aspects of the case.

Dr. Reid, in reply, said that he did not wonder that there had not been much discussion on the subject, because the case was rather an unusual one. Indeed, so far as he knew, it was unique in respect to the tumour's protruding beyond the vulva. This protrusion the patient had described as being "as big as a child's head." He had said nothing about the cervix. It was sound so far as he had observed; certainly it was not much injured, and that was very extraordinary with the history of so many deliveries by the forceps. As regards the possibility of a split having passed back into the posterior wall of the vagina, there was no chance of forming an opinion, the posterior wall being so transformed into the anterior wall of the tumour, that no special tear could have been made out even though it had been present.

The medical man referred to in *Dr. Cameron's* question had been communicated with, but there had not yet been time to receive his reply.

III.—A CASE OF SO-CALLED DOUBLE VAGINA AND UTERUS; OPERATION.

By *DR. W. L. REID.*

Three months ago I was consulted by a lady who gave me the following history:—She is 30 years of age and has always been regular, but with dysmenorrhœa and excessive discharge with clots. The dysmenorrhœa has been much worse since marriage eighteen months ago, and is now accompanied by a day of sickness and vomiting. There is a rather profuse leucorrhœa, often yellow in colour. Micturition and defæcation are normal. Her chief complaint was of dyspareunia, which has existed ever since marriage.

On examination a double vaginal canal was found, the septum being unusually firm and thick, and extending to, but stopping just below, the cervix. There was a considerable

amount of muco-purulent discharge. The uterus was retroverted, the sound passing backwards and slightly to the right to $3\frac{1}{2}$ inches. The speculum could not be easily used owing to the narrowness of the canals.

Believing that the presence of the septum in the vagina was the cause of the dyspareunia, I clamped it anteriorly and posteriorly, being careful to avoid the bladder and rectum; and after cutting it through with scissors, seared it with the actual cautery. A week afterwards the speculum revealed the fact that there were two openings in the cervix, one sound passing $3\frac{1}{2}$ inches slightly towards the right, and another at the same time to the same depth, but slightly towards the left. Both ora were eroded. On bimanual examination the points of the sounds could be felt at a little distance from each other, but there was no marked sulcus between them. Technically, then, this is the uterus septus or bilocularis of the manuals.

Carbolic acid was passed over the interior of both cavities, and an Albert-Smith pessary introduced to rectify the retroversion.

The patient has menstruated once since, with much less dysmenorrhœa, but sufficient time has not elapsed to test the effect of the treatment on that symptom. Of the result as regards the dyspareunia I am unable to speak for the same reason.

I have mentioned the case chiefly on account of the unusual thickness of the vaginal septum, and because, by the kindness of Dr. L. R. Sutherland, various sections of the part removed are here under the microscopes.

Dr. Sutherland's description of the tissues forming the septum is as follows:—

"The piece of tissue submitted measures 6 cm. in length, has an average thickness of 3·5 mm., by an average breadth (corresponding to its vertical extent) of 6 mm.

"At one of its extremities (presumably the anterior) it expands suddenly so as to attain a breadth (or vertical measurement) of 1·5 cm.

"It presents two raw surfaces, the surfaces of attachment and two surfaces covered with a thick, rugose, epithelial layer. The latter surfaces are continuous over the expanded anterior extremity.

"The tissue is tough and elastic, and has to the naked eye the characters mainly of fibrous tissue.

"Microscopically examined, the structure is in great part composed of somewhat scantily nucleated fibrous tissue, inter-

persed amongst which are considerable bundles of plain muscular fibres coursing generally in the length of the septum.

"The tissue is tolerably rich in blood-vessels of considerable size. The limiting epithelium is stratified and squamous."

IV.—CASE OF OCCLUSION OF THE VAGINA OBSTRUCTING LABOUR IN A PRIMIPARA.

BY DR. E. H. LAWRENCE OLIPHANT.

Dr. Lawrence Oliphant read notes of a case of occlusion of the vagina obstructing labour.

The patient, a primipara of 25 years of age, was admitted to the Maternity Hospital on 3rd January of this year. The membranes had ruptured about thirty-six hours previously, and there was abundant discharge with offensive odour. The finger passed into the vagina was obstructed by a diaphragm from reaching the cervix. Examination per rectum and with a sound in the bladder showed that neither of those organs lay in front of the head. In the diaphragm was found an opening, at first merely admitting a sound, then dilatable with finger sufficiently to permit the os uteri to be felt. The posterior lip of the cervix was bound down to the posterior vaginal wall and to the upper surface of the diaphragm. In a few hours the head came down sufficiently to rest on the diaphragm, which gave way, and permitted delivery with forceps. A few minute incisions were made in the most tense part of the ring, to which the diaphragm was now reduced, to prevent the occurrence of one big tear. The patient had suffered from scarlet fever in childhood, but no symptom was ever developed to draw attention to the vagina.

On dismissal, vaginal examination showed that the posterior lip of the cervix was still adherent to the vaginal wall, but nothing otherwise abnormal was detected.

Dr. Samuel Sloan spoke of having on the previous day seen a case of a somewhat similar, though rather graver, nature. The child had been born nine days before, and there was the history that during labour the vagina had assumed an hour-glass shape, just as if an indiarubber ring had been placed around the outside of it. While the doctor in attendance had been dilating this constriction with his fingers, it had suddenly partially given way, and the head coming down with a "pain," had then caused a tear in each lateral direction. Delivery had been completed with the forceps. Dr. Sloan

had seen the case in view of the subsequent result, and found the wound on the right side not healed, and considerable thickening in the right broad ligament, the latter being presumably due to absorption from the septic wound. The left wound had healed, and there was no thickening of the left broad ligament. In that case the septum seemed to have been thicker than in Dr. Oliphant's case.

Dr. Oliphant explained that in his case the obstruction was more suggestive of a septum or diaphragm placed across the vagina than of a protrusion gradually shading off above and below the seat of maximum obstruction.

Dr. W. L. Reid had seen the present case with Dr. Oliphant, but had nothing to add to his description of it. He thought that in the great majority of such cases patience was all that was necessary. He had seen some very striking cases early in labour where it was difficult to pass even a finger through the obstruction, and yet labour ended normally. Of course, expectant treatment could be pushed too far. He might refer to a case in which dreary labour (ended, it must be added, by the forceps) resulted in such extensive sloughing that the vagina was ultimately occluded. The facts connected with the labour had been reported to Dr. Reid by the doctors then in attendance, when the patient was sent to him five years later on account of amenorrhœa and occasional attacks of peritonitis. He had been convinced that menstrual fluid had accumulated behind the scar, which could be reached at a depth of one inch from the vaginal orifice. This fluid had been reached only with great difficulty, both bladder and rectum having been pouched and dragged towards one another.

Dr. M'Lachlan (Dumbarton) said that the obstruction in Dr. Oliphant's case was perhaps the result of a congenital defect. He had frequently found bands encircling the vagina, and he thought with Dr. Reid that patience would overcome them. They got so softened and stretched that the part ultimately yielded. He had waited repeatedly as long as two or three days, and ultimately had good results. The patient by that time was probably exhausted, so when dilatation had advanced sufficiently to admit the forceps, he applied them, and then pulled and rested time about. When the septum was on the stretch, if necessary he gave it a "snick" with the bistoury, and it yielded very nicely.

Dr. A. W. Russell related a case which he had seen at the Rotunda, and in which a fleshy vaginal septum, supposed to be congenital, had obstructed labour. The practice adopted

had been to wait for two days, and then to slit up the septum by a crucial incision as the head was forcing down on it.

Dr. Murdoch Cameron thought that *Dr. Oliphant* had been very wise not to operate further. In such cases one should always pass a sound into the bladder to see what connection the septum had with the bladder; for the bladder might be dragged down, and one might thus open into it if incising. Septa, such as that in the present case, were quite different from the bridles so commonly found after sloughing and injuries to the vagina. He had that day seen a patient who had had laceration on both sides of the vagina, which had healed with adhesion, and would probably cause trouble in the future. Such adhesions sometimes had an influence on the uterus, and displacements might occasionally be cured by separation of them.

Dr. Oliphant had referred to occlusion of the os. Cases of occlusion of the os had to be carefully dealt with. He had known of attempts being made to apply the forceps, it not having been recognised, through the great difficulty of finding the os, that it was still undilated.

Dr. Oliphant, in reply, said that he had brought forward the case as illustrating how, in such conditions as were here present, opening up might take place. He had examined the bladder with a sound, and knew that there was plenty of room for incising. It was the fact that the case had been forty-eight hours in labour on admission, with the os still out of reach, that had led him to think of interfering by cutting the septum and dilating with Barnes' bags.

V.—DISCUSSION ON THE TREATMENT OF ENDOMETRITIS AND SOME OTHER MINOR GYNÆCOLOGICAL CONDITIONS.

INTRODUCED BY *DR. H. ST. CLAIR GRAY*.

Dr. St. Clair Gray, in opening this discussion, spoke of his experience in the treatment of various affections of the female genito-urinary organs, and invited remarks upon these affections from the senior gynæcologists present. Among the subjects dealt with were endometritis (for which he recommended curetting and subsequent injection of 2 drachms of a saturated solution of iodine), displaced ovary, tender posterior ligaments, and urethral caruncles. In operating on the last-mentioned, he employed cocaine to anæsthetize the part, and, exercising traction by forceps with string attached, which he

held with his teeth, he had both hands free for accomplishing the removal.

Dr. Samuel Sloan was very much pleased with the *multum in parvo* presented by *Dr. Gray*. He might say that he did not curette in the class of cases mentioned by *Dr. Gray*. He thought that by such curetting the mucous membrane was merely cleaned, and that was undoubtedly of great value, as it allowed any remedy, subsequently applied, to reach the mucous membrane. He did the same, but not with a curette. Weak acetic acid had a marked influence in cleansing, as might be seen in other parts of the mucous membrane, to which then carbolic acid could be seen to adhere. His practice was to apply acetic acid with the Playfair's probe, and to follow this with carbolic acid. He did not think it mattered much what remedy was used, but none would do any good unless the mucous membrane was first of all cleansed. Carbolic acid had been the first he had tried; he had tried others, but had gone back to carbolic acid.

Then, as to displaced ovary—that was a nuisance both to patient and doctor. The method of treatment which he tried was to replace the ovary with the patient in the genupectoral position, and then to introduce as large a pessary as possible, so as even to antevert the uterus. A pessary which was just about the size, or a little too small, was a dangerous instrument, because the ovary came down, and was then apt to get caught and pressed upon.

Dr. Murdoch Cameron said, with regard to endometritis, that it was as well to leave the patient alone as simply to wipe the cavity. Such treatment might be all very well if one saw the patient every two or three days, but curetting was advisable if she were seen only once a fortnight. He did not curette the uterine cavity except at the patient's home, but he did curette about the os in dispensary practice. Ordinary cleansing was not sufficient, the secretion being so tenacious that one had almost to lift it away, whereas with one application of the curette the surface was thoroughly cleaned, and as good result obtained as from six months of ordinary cleansing.

In cases of dislocated ovary, *Dr. Cameron* thought that a pessary took the same place as a crutch did with a broken limb. He did not agree with what had been said by *Dr. Sloan* as to the size of the pessary. The new white metal pessaries were a great improvement, as one could adapt them to the shape of the uterus. A uterus would slip round a Hodge, but not round an Albert-Smith, and, besides, a Hodge

set up irritation at the outlet, while an Albert-Smith did not. When the vagina was broad, a Hodge did not do any good. One must thus make an examination to see what pessary was likely to suit. He did not like the strong curve of the Albert-Smith; in retroflexion it simply elevated without reducing the displacement.

As regards urethral caruncles, Dr. Cameron said that he found it difficult to get hold of them unless with a broad pair of forceps; the vulsellum usually went right through them. Cocaine was a great blessing when one could not use chloroform.

Dr. W. L. Reid entirely disagreed with what Dr. Cameron had said about pessaries for prolapsed ovaries. The Hodge and Albert-Smith were both very bad. No rigid pessary, unless it were jammed tight, would occlude Douglas's pouch, and thus be at all effectual. The only pessary likely to do good was a watch-spring, which yielded to the pressure of fæces in the rectum, and regained its shape after the bowels acted. Even that was not always effectual, because under strain the ovary was liable to come down again.

Dr. Gray had spoken of injecting 2 drachms of saturated solution of iodine. He doubted if the uterine cavity, even though curetted, would contain 2 drachms without risk of escape by the Fallopian tubes. When gonorrhœa had reached the tubes, probably the patient would never be well, unless suppuration took place, and abdominal operation were resorted to; even then her health was not completely restored.

Dr. Hector C. Cameron had had considerable experience in operating for urethral caruncle, both in elderly and in comparatively young women. If there was any disease which he would think of as unsatisfactory to treat, in view of the likelihood of return, it was this. One case he had operated on at least once a year for the last eight years. With the cautery and scissors he had certainly removed everything; indeed, he had had some anxiety lest he might cause stricture. The operation was an easy one at the time, and for the moment seemed satisfactory, but in six months or so recurrence usually took place—why, he did not know.

Dr. Oliphant could endorse what Dr. Hector Cameron had said about urethral caruncles. As a rule, they were pedunculate to begin with, and varied much as regards firmness. As regards tenderness, he had been beaten several times with cocaine, used as a 5 per cent solution, and dropped on to the part. Directly it was touched the patient jumped.

Dr. Walker Downie said that in throat and nose practice solutions of 15 to 20 per cent were rubbed in.

Dr. Oliphant assured *Dr. Downie* that it could not be rubbed into caruncles. As a rule, the caruncle came back sessile, and very often there was just a congestion of the mucous membrane wandering up the urethra. He would like to ask if any one had tried ichthyol for endometritis. He had applied it to the interior of the uterus, and also on vaginal pads, but had not given it yet by the mouth; locally, it did no good. He regarded it as an objection to the soft pessary, as recommended by *Dr. Reid* for dislocated ovary, that it required to be renewed so often. Personally, he preferred *Thomas's*. Tender posterior ligaments were usually improved if the patient became pregnant.

Dr. M'Lachlan presumed that the references to endometritis had been to the chronic form. When he curetted he ordered the patient to remain in bed for a day or two at the next monthly illness, and warned against sexual congress.

He had used cocaine successfully in treating urethral caruncles when the patients refused to have chloroform. Before operating, he caused the patient to pass urine, and then washed out the bladder. He dilated the urethra with a fenestrated nasal speculum, and, using a red-hot stocking wire, cauterised all round the meatus and the mucous membrane for about an inch within the meatus. In some cases, thus treated, there had been no recurrence.

Dr. Hector Cameron added that, in cases in which he had had recurrence, he had used *Paquelin's* cautery—a much more powerful agent than that mentioned by *Dr. M'Lachlan*.

Dr. St. Clair Gray, in reply, said that by curetting he removed the mucous membrane, and did not merely clean it; he had been able to prove this by examination of the substance removed. A suitable pessary for the treatment of displaced ovary did not seem yet to be forthcoming. His practice was to use plugs of wool, frequently changed. *Smith*, of Dublin, thought that one could get the ovary replaced by massage.

Dr. Reid had asked as to the injections of iodine. His intra-uterine syringe held 1 drachm, and he used it twice. The first drachm escaped into the vagina, which was filled by a douche, and therefore took no harm from the iodine.

MEETING IX.—6TH APRIL, 1894.

PATHOLOGICAL SECTION.

The President, DR. HECTOR C. CAMERON, in the Chair.

I.—FRESH SPECIMEN : FRACTURED FEMUR FIVE WEEKS AFTER INJURY ; EXTENSIVE THROMBOSIS.

BY DR. RUTHERFURD.

The specimen showed extensive splintering, with impaction in the neighbourhood of the trochanter. Shortly after the injury a limited mobility was made out about the union of the upper and adjoining fourth, but there was nothing to indicate the great splintering that had taken place. The neck and a long internal splinter of the shaft were loosely impacted into the outer shell of trochanter and shaft. It was probable that, with the development of granulation tissue, the impaction had become somewhat looser than it was at first.

A considerable formation of bony callus had taken place on both aspects of the fracture ; but union was by no means complete, and there was still some intermediate granulation tissue, allowing a considerable amount of mobility.

As regards the mode of death, that had appeared to be by hypostatic pneumonia. The patient was a big heavy man, probably from 18 to 20 stones in weight, and very difficult to manage in bed. No attempt had been made to make complete extension of the limb, traction being made obliquely, and finally the limb allowed to rest over pillows.

At the *post-mortem* examination no permission could be obtained to examine the chest, and the question of the exact nature of his pulmonary trouble remained unsettled. The very extensive thrombosis of the veins in the affected limb suggested the possibility that pulmonary embolism might have occasioned the fatal complication. The thrombus in the veins was firm, decolourised in central parts, but not firmly adherent to vein walls. It extended up into the abdomen.

In reply to Dr. Cameron, Dr. Rutherford added that the patient was a man between 55 and 60, and that the accident had been of a trivial kind, he having fallen on the street on to his trochanter.

II.—CALVARIUM FROM A CASE OF CIRCULAR INSANITY.

BY DR. L. R. OSWALD.

Dr. L. R. Oswald showed the calvarium from a case of *folie circulaire*, and read a few notes of the condition.

The patient had been in the Glasgow Royal Asylum for over forty years, and died there, death coming in the end rather suddenly, and being probably due to the congestive condition described by Falret as one of the causes of death in these cases.

The periods of excitement were sharp but short, characterised by destructiveness, incoherency, and moral perversion. As the excitement subsided delusions became more evident, and the same delusions noted as having been present shortly after admission persisted in the attacks of recent years. The periods of depression were short, and marked by irritability and a disposition to quarrel. Strong suicidal tendencies were noted as having been present on several occasions.

The periods of remaining at the line of health varied from two to five weeks, so that the cycle took about three months to complete. For thirty-five years considerable mental vigour was retained, and that in spite of over one hundred attacks of pretty acute mania; but during the last few years of life great mental deterioration took place, and this Dr. Oswald was disposed to attribute in great measure to the administration of sulphonal given in fairly large doses to check the excitement.

It calmed the patient and procured sleep, but, after its continuance as was required for a year, there was observed considerable dulling and blunting of the intellectual faculties; and looking back on the case, and thinking of others, Dr. Oswald was disposed to hold the drug as responsible for much of this.

There was thickening of the skull cap anteriorly, and a marked deposit of bone, irregular and nodular, on the inner table of the skull. Some new deposit was also present on the lateral surface of the left parietal bone. The grooves for the arteries were in many cases converted into bony canals for a distance. Bony plates and spicules were found in the falx, and the dura as a whole was much thickened, and strongly adherent to the bone in the anterior regions of the skull.

In conclusion, Dr. Oswald stated that much, if not all, of this new bone production was to be regarded as compensatory, that in the *post-mortem* examination of this, as of many other

cases, no condition had been found that threw any light on the special pathology of the disorder, and that the changes he had described as having been found were simply an extreme example of those common in cases of insanity with chronic excitement.

Dr. Coats said he felt sure that they were all pleased to have a case from Gartnavel. He understood that pathological studies were now receiving much attention in that asylum, and he trusted that the present was but the first of a series of cases to be shown at the medical societies. He did not pretend to be able to discuss such subjects, but he ventured to think that this term, "circular insanity," was one that had better be got rid of. To his mind it sounded popular and unscientific. "Circular" was a mathematical expression, and it was not in the spirit of the English language to employ it as equivalent to cyclical.

Dr. Hector Cameron and *Dr. Oswald* explained that that meaning did attach to the French expression of which it was a literal translation.

Dr. Coats, continuing, said that he would like *Dr. Oswald* to give them some information about the pathology of acute mania. He thought that such violent excitation of the brain as was met with in mania must be due to some irritant. The result demonstrated in the present case, and the chronic interstitial inflammation found in the atrophied brain of general paralysis, pointed to something of the same kind. General paralysis usually began acutely, and he thought it must be dependent not merely upon a peculiar mental condition, but upon some irritant applied to the brain substance, when they found this chronic interstitial change in the chronic stage. So in mania he would regard it as probable that there was present, not just a functional change, but some irritant—whether in the juices, in the brain itself, or in the blood, it would be difficult to say. The whole pathology of mania and of acute cerebral excitation stood, he thought, in need of elucidation.

Dr. Auld spoke of having examined the brain from another case of circular insanity which *Dr. Oswald* had kindly sent him. He had made sections from the cortex, and round the nuclei of the nerve-cells he had observed an unusual deposit of granular pigment; the capillaries, also, had appeared to be distended. This deposit of pigment must have been due, he thought, to engorgement of the blood-vessels in the cortex, and the description of the bony excrescences in *Dr. Oswald's* present case had corroborated that view. He was also inclined

to think that some fatty change would be found if osmic acid staining were employed in fresh sections.

Dr. Oswald, in reply, said that he did not think they could lay much stress upon the appearances mentioned by *Dr. Auld*, as the brain examined by him had been in a chromic acid solution for a couple of years. In the present case *post-mortem* examination had unfortunately required to be postponed until fifty-two hours after death. Fresh sections had been tried, but *post-mortem* changes had so far advanced that little could be made of them.

With regard to what *Dr. Coats* had said about acute mania, he could only reply that it was very rarely that one had the chance of examining the brain in acute mania, as the patients either recovered or became demented, and if they died demented, of course one could not trust anything then found as giving indications of the pathology of mania. Even if he had been successful in obtaining fresh sections in the present case, a similar doubt would have held good as to anything they might have shown.

Dr. Auld did not think the chromic acid could have caused the pigmentary change he had mentioned.

Dr. Oswald, while admitting that, thought the shrinking which resulted to be of such a degree as to render other changes noted unreliable.

III.—SPECIMEN PRESENTING RUPTURE OF THE CHORDÆ TENDINEÆ OF THE MITRAL VALVE.

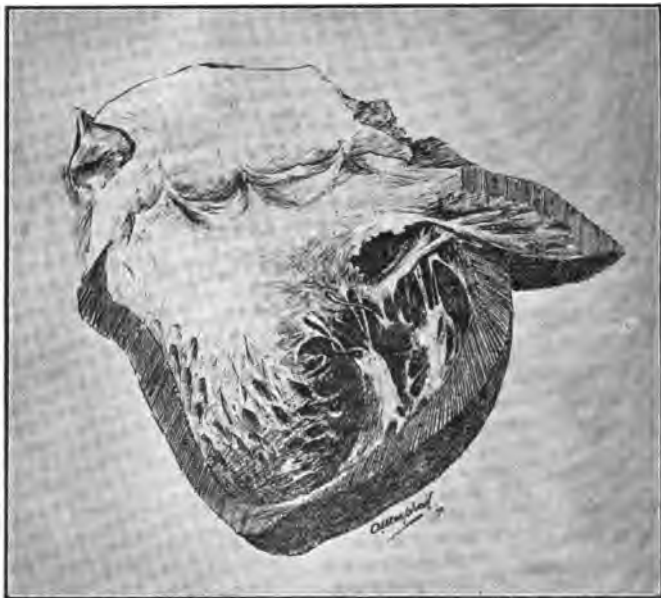
By *DR. C. O. HAWTHORNE*.

The patient in this case was a man, 35 years of age, who had been under *Dr. Hawthorne's* care in the Western Infirmary, in September, 1893. He had never had rheumatism, and his health had always been good till three years before death, when he had had to give up training in a boat's crew, because of "a weakness in his body," which had gradually developed at that time. On physical examination of the heart, the main facts noted had been bulging in the præcordial area, diffuse pulsation, apex beat displaced downwards and to the left, increased cardiac dulness, presystolic thrill, presystolic and systolic murmurs of mitral distribution, the systolic murmur being, however, heard well also all over the anterior chest wall. There had, besides, been signs of pulmonary involvement and of hepatic congestion. The urine had contained abundant albumen, a few casts, but no blood.

Death had occurred on 26th September.

The specimen was shown, in Dr. Hawthorne's absence, by Dr. R. M. Buchanan, and is described in the accompanying summary of his report of the *post-mortem* examination:—

"The heart is greatly enlarged, weighing 511 grammes. The left ventricle is dilated. Its wall is flaccid as compared with the right; it is notably thin at the apex, and is 14 mm. in diameter at the base. The aortic valve is normal. Viewing the mitral valve from the auricular aspect, the anterior flap is found projecting inwards across and half closing the



Rupture of Chordæ Tendinæ of the Anterior Curtain of the Mitral Valve.
(Drawing from Nature Reduced one half.)

DR. HAWTHORNE'S CASE.

orifice. Three tendons belonging to this flap are ruptured at their attachment. The torn ends of the tendons are swollen and granular. The valve is thickened and contracted, the orifice scarcely admitting the tips of two fingers, and the edge of curtain, left free by the rupture, is studded with vegetations. Very minute vegetations mark the opposed part of the surface of the posterior curtain.

"The right ventricle presents great hypertrophy and dilatation. At the base its wall measures 8 mm. in thickness.

Globular thrombi are found in its wall, and also in the right auricular appendage. The tricuspid orifice admits five fingers.

"Hydrothorax; occlusion of large branch of pulmonary artery; hæmorrhagic infarction. Liver very fatty. Hyperæmia of liver, spleen, and kidneys."

Discussion on this case will be found after the report of Dr. R. M. Buchanan's similar case, which follows.

IV.—SPECIMEN PRESENTING RUPTURE OF THE CHORDÆ TENDINEÆ OF THE MITRAL VALVE.

By DR. R. M. BUCHANAN.

M. F., æt. 55, labourer, was under Dr. Tennent in the Western Infirmary in July, 1890, complaining of shortness of breath, and suffering from cardiac disease, with enlargement of the liver, and œdema of the feet and legs. He made a good recovery, and until recently enjoyed fair health. On readmission on the 2nd March last, his complaint was as before, and he was very weak and emaciated. In the clinical report of 1890 it was stated that patient had given a history of two attacks of "fever," in one of which pain all over the body had formed the leading symptom.

The area of cardiac dulness measured, transversely, 5 inches. A systolic murmur was heard all over the cardiac area, towards the axilla, over the vessels of the neck, and down the back. The pulse was very irregular in force and rhythm.

At the base of the lungs there was some evidence of effusion, and auscultation revealed sonorous and sibilant râles.

Palpation of the liver revealed tenderness and considerable enlargement.

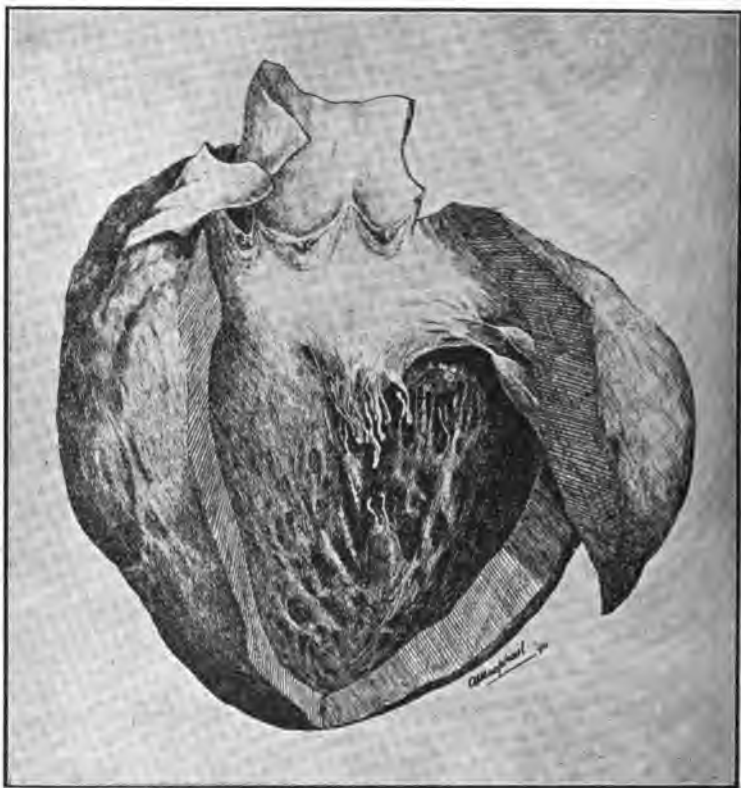
The spleen also was much enlarged.

The urine was scanty, and contained abundant albumen.

Dr. Buchanan, in submitting the specimen, gave an account of the *post-mortem* examination, which may be summarised as follows:—

"The heart is enormously enlarged from hypertrophy and dilatation of both ventricles and right auricle. It weighs 910 grammes. The aortic valve fails to support a column of water. The wall of the left ventricle measures 2.5 cm. in thickness at the base. Each cusp of the aortic valve has an irregular firm vegetation, about the size of a split pea, over the corpus Arantii. The mitral valve admits three fingers half way. Its anterior curtain presents a very irregular fringe of ruptured chordæ tendineæ. The ruptured tendons number eight, and the free extremities of some of them are bulbous

and granular from endocardial thickening. One of the papillary muscles shows complete severance of all its tendons, being surmounted by short, smooth, slightly bulbous stumps. This papillary muscle is soft, pale, and atrophied, as compared with the others. Other two muscoli papillares present



Rupture of Chordæ Tendineæ of the Anterior Curtain of the Mitral Valve.
(Drawing from Nature Reduced one half.)

DR. BUCHANAN'S CASE.

ruptured tendons to the number of three. A few vegetations appear on the margin of the curtain freed by the rupture, and on the opposite surface of the posterior curtain.

"The wall of the right ventricle has a diameter of 1 cm. at the base. Its columnæ carneæ are extremely developed, and there is some mottling of fatty degeneration. The

pulmonary valve presents marginal fenestration of its cusps. The tricuspid valve is considerably dilated, admitting five fingers easily half way. The right auricle is greatly dilated, and its wall much thickened.

"Œdema of the lungs and hydrothorax. Hyperæmia of the liver, and spleen, and kidneys."

Dr. Auld asked *Dr. Buchanan* how he explained the fact that the ruptured ends were the thickest parts, and as to whether he had made microscopic examination of the seat of the rupture, it being very rare to get rupture without previous molecular change. Another point he would raise was the rigidity or otherwise of the valves.

Dr. R. M. Buchanan said that one had been rigid.

Dr. Auld asked how, if the valves were inactive, rupture could be accounted for, unless by some process of softening.

Dr. John H. Carslaw spoke of rupture as it occurred in ulcerative endocarditis, and referred to a case in which he had met with it in connection with the tricuspid valve (*cf. Glasgow Medical Journal*, August, 1889).

Dr. R. M. Buchanan, in reply, said that the bulbous thickening was no doubt due to inflammatory action, and secondary to the rupture. That the endocarditis present was secondary to the tear seemed to be indicated by the fact that, besides the torn parts, it involved only the opposite curtain at a part where it had probably been irritated and infected by the flapping of the curtain, which became freed. *Wilks* and *Moxon*, in their text-book, expressed the opinion that the chordæ tendinæ might rupture one after another, leading to the well known progressive increase in severity of the symptoms in such cases. Examination of the ruptured tendons had been repeatedly reported as showing cellular proliferation at the end of the stump, associated with a certain amount of fibrinous exudation.

V.—SECTIONS FROM A CASE OF OLD-STANDING ECZEMA OF THE NIPPLE—QUERY, PAGET'S DISEASE?

BY DR. RUTHERFURD.

The points to which *Dr. Rutherford* specially drew attention in this case were these:—

1. Downward penetration and encysting of epidermis.
2. Proliferation of the papillæ.
3. Great proliferation of the epithelium in the ducts.

VI.—SPECIMEN OF CARIES OF THE FEMUR, IN WHICH THE CAVITY AND SINUS BECAME THE SEAT OF EPITHELIOMATOUS GROWTH.

BY DR. T. K. DALZIEL.

The clinical features of this case, as submitted by Dr. Dalziel, were as follows:—

“J. S., æt. 39, became affected thirty years ago with caries of the femur, probably of a tuberculous character, as one might judge from the date of occurrence, the history of first attack, and the family history.

“During these thirty years the sinus on the outer side of the right thigh has continued to discharge more or less, and on several occasions attempts have been made to remove the disease, but with only temporary improvement. The last operation before his coming under my care was done four months ago, an incision over the lower third of the outer aspect of the thigh having been made, and this incision had never completely healed, while the surrounding skin was in an eczematous condition from the acrid watery discharge escaping from the wound.

“The general health of the patient was evidently suffering from the prolonged drain to the system, and from anxiety and worry his mind tended to give way as well. Operative interference was evidently urgently called for, but ere undertaking any lesser operation, permission to perform the major operation was obtained if it should be deemed advisable.

“On exposing the femur a deep cavity was found occupying the greater part of its lower third, leaving only the shell of the bone for two-thirds of the circumference. The cavity seemed to be partially filled with somewhat firm granulation tissue. As it was evidently impossible to remove the disease without destroying the continuity of the shaft of the bone, it was decided to amputate.

“The skin at the orifice of the sinus had no appearance of the epithelioma from which the bone suffers, as will be described by Dr. Sutherland.”

Dr. L. R. Sutherland gave the following detailed account of the examination he had made of the part:—

“On the external aspect of the lower end of the femur there is an extensive gaping wound, surrounded by exceedingly dense cicatricial tissue, and exposing a large cavity in the substance of the shaft, occupying its postero-external aspect.

“The cavity measures 8 cm. in length, 2.5 cm. in depth, and almost 3 cm. from side to side. It is lined by a distinct layer, interrupted at parts, of whitish-grey tolerably firm tissue, the surface of which shows many minute, slightly raised, trans-

lucent points. Here and there this tissue forms masses of considerable size. This is the case particularly at the lower and upper extremities of the cavity. In some places the growth may be readily removed from the bony wall of the cavity; in other places it seems as if incorporated.

"The bone itself is dense and heavy. Its periosteal surface is covered throughout with a layer of dense, white tissue, from 3 to 4 mm. in thickness. Microscopically examined it is found to consist of fibrous tissue.

"The muscles of the limbs show considerable fatty infiltration.

"The inferior portion of the cartilaginous surface of the patella has in great part disappeared, as if from absorption. The knee-joint otherwise is unaffected.

"The tissue lining the cavity has, on microscopic examination, a typical epitheliomatous structure.

"The medulla, at the level of the saw-cut, presents microscopically normal characters."

Dr. Hector Cameron was quite familiar with the condition illustrated by this specimen, though it was no doubt rare. In the article on "Epithelioma," in Professor M'Call Anderson's *Treatise on Diseases of the Skin*, he had referred to a case which was the analogue of the present one in almost every respect. Neither *Dr. Dalziel* nor *Dr. Sutherland* had mentioned any epitheliomatous condition of the scar; indeed, *Dr. Dalziel* had rather spoken as if the scar were free.

Dr. Sutherland explained that the scar had not been submitted for examination.

Dr. Cameron said that the origin of the epitheliomatous growth had most probably been in the scar, and referred to the occurrence of epithelioma in the scars of burns. After burns, and in the few cases, like the present one, which did occur, there was usually a very old history, dating back for a period of twenty years or so.

VII.—SPECIMEN OF EPITHELIOMA INVOLVING THE METACARPAL BONE OF THE THUMB.

By *DR. L. R. SUTHERLAND.*

The patient from whom this specimen was obtained was a man, aged 76, who for nearly twenty years had had a small wart situated dorsally over the proximal end of the first phalanx of the right thumb. This had occasioned no discomfort till about two years ago, when it began to increase in size and to be painful. Patient's health at this time was considerably reduced, as the result of an attack of "rheumatic fever" associated with a purulent discharge from the ear.

The "wart" was treated with various caustics, but steadily increased in size, becoming more and more painful, finally affecting the general health.

On admission to hospital it formed a well-defined, raised, fleshy mass, with blunt papillary surface projections, and with markedly everted edges. It covered the entire thenar eminence and corresponding region on the dorsal aspect, extending obliquely forwards on the thumb to beyond the interphalangeal articulation. It measured in greatest diameter 9.5 cm. The glands at the elbow and in the axilla were not appreciably involved.

The thumb and index finger were amputated through their respective carpo-metacarpal articulations, and a week later the patient was dismissed with the wound healing well, and advised to attend the surgical dispensary.

The deep penetration of the growth and the very marked softening and destruction of the underlying bones were the striking features of the case.

The preparations under the microscopes illustrate the process of invasion. Characteristic elongated or rounded masses of epithelium are seen lying in an abundant stroma composed mainly of spindle-cells. These replace the medulla of the bone throughout. The bone is represented by small areas of elongated form, but has in great part disappeared. The epithelium is in some cases directly applied to the edges of the bone, where bay-like indentations exist; generally, however, a layer of spindle-celled stroma intervenes.

VIII.—CARD SPECIMENS.

A. BY DR. W. J. FLEMING.

Gumma of Testis; man of 41 years of age; syphilis of twenty years' standing.

B. BY DR. L. R. SUTHERLAND.

1. *Specimen of Cœnurus Serialis* (the cystic of *tænia serialis*) from loin of female rabbit.

The outer wall of the vesicle, suspended uppermost, has been removed from the inner.

Growing from the inner aspect of the latter are numerous scoleces, the size of millet seeds, grouped in linear series, while depending from its outer surface are five pedunculated daughter vesicles, also containing scoleces.

Under the microscopes the heads are shown, with their circlet of hooks, large and small (26 to 32), and sucking discs.

The vesicle was situated in the left dorso-lumbar region, where it formed a prominent swelling about the size of a hen's egg. Its long axis was parallel to the muscular fibres, which were expanded over it. It contained about three-quarters of an ounce of turbid whitish-green fluid, rich in milky-white, flake-like masses, portions of which may still be seen adhering to the inner wall.

The *cœnurus serialis* is the cystic of the *tænia serialis* of the dog, and is met with in wild rabbits in the connective tissue throughout the body. Affected rabbits—"bladdery rabbits" in gamekeepers' parlance—do not *generally* show any marked deterioration in general health. In one recorded case the animal died from paraplegia.

The *cœnurus serialis* given to dogs produces the *tænia serialis*, the ova of the latter producing the *cœnurus serialis* in rabbits. It is specifically distinct from the *cœnurus cerebralis* (of the sheep), which is the *tænia cœnurus* of the dog, in cystic form.

2. Photographs, taken early in 1893, of a case of *Molluscum Fibrosum*, as illustrated also in New Sydenham Society's *Atlas of Skin Diseases*, plate xviii; *Clinical Illustrations* (smaller atlas) of Jonathan Hutchinson, plates lxiv and lxv; and Neumann's *Atlas der Hautkrankheiten*.

C. BY DR. H. E. JONES.

Photographs of a case of *Molluscum Fibrosum*.—F. D., seen in Calcutta Leper Hospital in November, 1893, is a native Christian (R.C.), 84 years of age. He is married, and has had three children, all of whom are dead. They were free from any complaint such as his, as were also his father, mother, and all his other relatives.

His present illness began forty-four years ago, the latter twenty-four of which have been spent in the above hospital. He has no pain of any kind, and his general health is good.

D. BY DR. R. M. BUCHANAN.

1. *Cystic Transformation of the Kidneys*.—Patient was 47 years of age; admitted to the Western Infirmary suffering from pleurisy. Died after operation for empyema. Albumen in urine was only symptom pointing to the kidneys.

2. *Calculous Pyelo-nephritis*.—History of urinary trouble for four years; paroxysmal pains in sides of abdomen for two or three months; tenderness and fulness over both kidneys, especially the right. Urine alkaline, contained much blood and albumen. Patient aged 49 years.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

MEDICINE.

By T. K. MONRO, M.A., M.B.

The Vasomotor Phenomena of Fever.—Heidenhain first studied this subject, and called attention to the changes in the cutaneous vessels. Senator showed that, at the height of an infectious fever, the vessels of the skin are alternately increased and diminished in calibre. Finally, Bouchard and Charrin investigated the action of bacterial products upon vasomotor nerves. The present writer (Krans) has studied the matter largely from a clinical point of view. Inspection shows that, during the cold stage of a fever, the turgidity of the skin is lessened; the superficial arteries are narrowed; the peripheral parts are colder than normal, while the temperature of deeper parts is elevated. At the height of the fever, the turgidity of the skin is increased; the cutaneous vessels dilate, and blood taken from the veins of the arms is clearer than normal; so that there is now relaxation of the vessel-walls, dilatation of capillaries, and acceleration of the circulation. These phenomena are undoubtedly due to disturbed innervation. Calorimetric observations made with Rosenthal's apparatus have shown that when the temperature falls, either spontaneously or after the administration of antipyretics, the loss of heat increases, while this is diminished during an accession of fever. Antipyretic drugs are thus the next best thing to Nature's method, as the use of the bath to reduce temperature does not cause the same increase of heat-loss. The writer has, in a number of cases, examined the volume of the red-blood corpuscles and of the plasma, and he has found that the plasma and the size of the individual corpuscles do not deviate in fever from the normal. The writer concludes that a toxic effect is produced upon the nervous mechanism of the blood-vessels, but he considers that the facts known are not yet sufficient for the construction of a satisfactory theory of the febrile condition.—(*Deutsche Med.-Zeit.*, 29th March, 1894.)

Vitality of Men and Women.—It is well recognised that women, though more delicate than men in most respects, have a greater average longevity. And this is true in spite of childbearing. All life-tables founded on a general population show this. In the English Life-Table, No. 3 (constructed by Dr. Farr), it was noticed that woman enjoys a greater expectation of life at every age, without exception, than man. This is commonly supposed to be due largely to her more sheltered position, which is chiefly obtained at man's expense. His dissipation, also, are supposed to account somewhat for his inferior longevity. It is doubtful, however, if either of these factors is of much importance. The table of life expectation tells only half a truth. A greater tenacity of life in the later years may more than counterbalance a higher mortality in the earlier years. To get at the whole truth, therefore, we must examine a table which shows the mortality per mille for each age of each sex. In this way, each year stands by itself, and is not affected by antecedent or subsequent years. The writer constructed a table for this purpose, and he draws the following conclusions from it:—

1. During the first two years of life, the female mortality is much less than the male, being 92·64 and 31·88 per mille against 112·80 and 35·08. For the next three years it remains still a little less. During this period the distinctions between the two sexes in hygienic matters are practically nil. Both are dressed alike and fed alike. But, in spite of this, the female mortality is less.

2. About the age of 5, or a little earlier, some difference in dress, exercise, and exposure is manifested. The girl stays in the house and plays with her dolls, while the boy is outside making mud-pies or throwing snowballs. The influence of these changed conditions is promptly shown in the female mortality. It now exceeds that of males. After this the mortality falls in both sexes up to 12 years of age, when it attains its lowest point. It is then 3·56 per mille for males, and 4·28 for females. From this point, it constantly rises for both sexes, being always larger each year than the preceding one.

3. It is commonly supposed that the establishment of the sexual function is attended with graver consequences to the female than to the male. An inspection of the table throws doubt on this. It is true that from 12 to 16 the female mortality increases more rapidly than the male, the increase being respectively 1·68 per mille and 1·18. But from 16 to 20 the increase is much more rapid on the male side, being 2·21, while, for the female, it is only 1·70. In England, the age of puberty is not much earlier than 14 or 15. Furthermore, those diseases which can be ascribed to the development of this function are usually chronic. However, another factor enters, which doubtless has some influence. Most men have to begin at this age the struggle for existence, with its attendant hardships and vices. Of course, in this contest, the weaklings will be thinned out early. It is impossible to decide which of these factors is the more important in increasing the male mortality at this period.

4. From this point, the male mortality slowly gains on the female, until the age of 46, when the two are alike—11·11 per mille. This year represents the practical end of childbearing. To the influence of parturition we can probably ascribe the greater female mortality during the preceding years. The difference, however, is never great. It is most marked at 34, when it amounts to ·81 per mille. The male mortality is then 8·52, and the female 9·33.

5. The next ten years, from 46 to 56, represent the period of the menopause in women, the great climacteric. It is "the critical period for women," in the minds of the laity, and of most of the profession. But a careful examination of the table shows the contrary. The rise in female mortality during this period is just as gradual as before. Much more startling are the facts with regard to the male mortality. Certainly this is *man's* critical period. The truth of the old doctrine that he, too, had a great climacteric is most strikingly shown. In these ten years the increase in the male mortality, per mille per annum, is 6·32, while the corresponding figures for females are 3·47. We can only guess at the causes of this great increase of mortality among men; perhaps the syphilis of youth is drawing its last cheque; perhaps the hardships of occupation have just brought about bankruptcy. But why should this happen at the very period which, to the popular mind, is fraught with peculiar peril only to women?

6. From this point, the mortality of women gains so rapidly on that of men, that the period of 56 to 60 might fairly be termed a "critical period" for them. After this, the two run on to the end of the chapter in nearly parallel lines, the female mortality being always less than the male. The difference varies between 1·4 at 60 and 8·7 at 80, and there are considerable fluctuations later on.

7. It is often said, that although woman's average longevity is greater than man's, nevertheless great age is attained only by man. Biblical references on this point are not of much value, for in the days of the patriarchs few women received historical consideration. In a list (published in London in 1867) of about three hundred persons who had attained the age of 120 years or more, the writer counted the names of over sixty women. This is 20 per cent, and a fair proportion when it is considered how little historical importance was attached to women a century or two ago.

8. Some of the inequalities in the mortality of men and women have been explained in preceding paragraphs. But one great fact remains inexplicable, and that is woman's greater tenacity of life. It cannot be due to her sheltered

position and comparative freedom from vice, dissipation, worry, and toil, for it is manifested in the cradle as well as in old age. It is strikingly shown in the years of infancy, but the interregna of bad management in childhood, and of child-bearing later on, affect it adversely. After these, it reasserts itself.

Perhaps this superior vitality is a relic of the time when our ancestors swung from tree to tree by the aid of their tails. They were undoubtedly polygamous. At least Darwin says that the highest apes now living are polygamous. If they were polygamous there must have been an excess of females. This excess could have been maintained in two ways only—viz., by an excess of female births, or by a greater tenacity of life in the females born. But we know that at present there is an excess of male births everywhere, in spite of the popular impression to the contrary; so that we are compelled to conclude that women have a greater tenacity of life than men. Moreover, certain facts just alluded to give good ground for the belief that this characteristic of women has descended by inheritance from a remote ancestor.—(Symonds, in the *American Journal of the Medical Sciences* for March, 1894.)

GYNÆCOLOGY AND OBSTETRICS.

By E. H. LAWRENCE OLIPHANT, M.D.

Symphyseotomy.—Pinard has an article in the January number of the *Annals de Gynécologie et d'Obstétrique* of this year. Many cases have been recorded by other operators. The German cases referred to are chiefly quoted from the *Centralblatt. f. Gynæcol.* of the past two years. Pinard gives his indications in the following *préceptes*:—

1. Abandonment of the induction of premature labour in all cases where symphyseotomy will allow the passage of a fetal head at term.
2. Abandonment of all applications of forceps for osseous obstruction whether this be at brim, in cavity, or outlet.
3. Abandonment of embryotomy on the live child.
4. Enlargement of the pelvis temporarily (by symphyseotomy, pubiotomy, ischio-pubiotomy, coccygotomy) in all cases where there is osseous resistance not naturally overcome, though the head be presenting favourably, where calculation shows that section of the pelvis will allow the head to pass.
5. Porro's operation in cases of absolute contraction.

Leopold of Dresden, one of the operators who has had most success in the Cæsarean section, and whose opinion, therefore, is worth considering, claims for symphyseotomy that it replaces the section in what he calls cases of relative indication—that is, in cases where the conjugate is 6 to 8 cm. Above that he prefers delivery by version; below that, by the section. At the same time, after an experience of four cases, he recommends the operation in cautious terms.

Chrobak, who had a fatal case, says that symphyseotomy cannot always obviate the necessity of perforating a living child.

Kufferath gives 7 cm. as the minimum conjugate at term, but reduces the minimum to 5½ cm. at the eighth month—that is, combining the operation with the induction of premature labour; Morisani, 67-81 mm. Schauta of Vienna also does not go below 7 cm., and claims that this operation or craniotomy should be preferred to the Cæsarean if you are not sure of the case being aseptic from the beginning. Koffer and others, however, specially warn against attempting the operation when there is already offensive discharge or other reason to apprehend sepsis.

Maygrier has operated for obstruction to labour from a periosteal tumour on the pubes. Basiotripsy was required to complete delivery, and the mother died of embolism of the pulmonary artery. Lepage operated successfully for fibroma obstructing delivery.

The following description of the operation is taken chiefly from Pinard :—

The patient is prepared with the ordinary antiseptic precautions, and is placed on her back at the edge of the bed, care being taken that she is not inclined to either side. The most convenient place for the operator is between the patient's legs. An incision is made in the middle line for about 8 cm., running down to a point immediately above the clitoris. The recti abdominis muscles are separated at their insertion sufficiently to allow of the left forefinger being passed behind the symphysis to separate the retro-pubic tissues and to act as a guide to the knife as well as to protect the bladder. The finger is usually able to feel the backward projection of the cartilage, which may otherwise be difficult to find. Pinard and most of the operators seem to prefer cutting from above downwards, and from before backwards, with an ordinary blunt-pointed bistoury, letting it find its way, so to speak, in the direction of least resistance. This part of the operation may in itself prove very difficult. Davis, in America, found the joint S shaped, with scarcely any cartilage; he had to hack through the bone with his knife. Olshausen also had to waste much time in cutting through the bone. Zweifel found the bones overlapping. Ekstein broke his thin-bladed knife, and Schauta found the space so small that a thick-bladed knife would not go through. These operators, therefore, advise the use of a chain-saw, which is, however, not easy to pass; and, in a case by Schwarz, death was ascribed, partly at least, to the injuries caused to the soft parts in sawing.

To proceed :—Pinard separates not only the symphysis completely, but goes on to divide the sub-pubic ligament; this is done fibre by fibre after first pulling the urethra down to one side with a sound. He claims that this leads to less tearing of the parts during delivery.

Leopold, on the other hand, found that dividing the pubes only in its upper half or two-thirds gave a separation there of 3 cm., and recalling the fact that in flat pelvis the sacrum and pubes slope towards each other, and so cause the chief obstruction to be at the very brim, he was by this partial section able to deliver a child without difficulty. In one case operated by this method the undivided part suddenly burst, tearing the soft parts seriously.

In any case, it is at this stage, after the division of the pubes, that trouble is most likely to begin. Many of the German operators have been met by troublesome, alarming, or even fatal hæmorrhage—a hæmorrhage difficult to control from its depth of origin, often not controlled by plugging the wound; not possible to arrest with forceps; and in one case the operator, in exerting counter-pressure from the vagina, passed his finger easily right through it and out at the wound. Zweifel had to pass deep stitches through all the tissues, and this led to troublesome sloughing later. He even recommends one to pass two ligatures round one of the crura clitoridis, and divide this structure between the ligatures, to obviate this alarming hæmorrhage.

On dividing the symphysis the separation of the bones may be only about 1 cm., and may be 3 cm., and on separating the thighs and rotating them outwards it extends usually to 3 or 4 cm., but may go much farther. Hæmorrhage, as we have seen, may occur at this stage, and in one case rupture of the bladder (Smyley's), though more commonly the severe lacerations occur during the passage of the child.

Pinard warns one to obtain a separation of at least 4 cm. before attempting to deliver, and to obtain this recommends the use of a specially constructed instrument—a sort of spring callipers which registers the separation. Then guard the wound with an antiseptic covering. All the operators seem agreed in giving 6 cm. as the maximum separation permissible, though it is not always possible, especially during the passage of the child, to prevent separation even to 10 cm. For example, Tillier, with a separation of 5 cm., was met by hæmorrhage, from a vessel of the size of the radial, that took him three quarters of an hour to arrest. On proceeding to deliver with forceps, separation occurred to 10 cm., causing a tear involving bladder, urethra, and perineum to coccyx. Death resulted in two hours.

During delivery many operators have caused serious lacerations. Chrobak

for instance, found all the soft parts under the symphysis torn away, and was unable to find the urethra afterwards. He specially warns that the injuries to the soft parts cause the greatest difficulties and dangers of the operation, which is more difficult than the Cæsarean section, so that he would always prefer the section in private.

A separation of more than 6 cm. will probably cause rupture of the anterior ligaments of one or both sacro-iliac joints, with subsequent suppuration as a possible result in case of septic infection.

Pinard rotates the thighs inwards to prevent excessive separation during the passage of the head, and recommends dilatation of the soft parts in primiparæ before extraction of the head.

After delivery, Pinard proceeds to stitch the soft parts only, and claims that he gets satisfactory union of the pubes. Others stitch bone or cartilage, but this is often difficult, and has not always led to complete union. The parts seem to be most easily kept apposed by bringing the legs together and rotating them inwards. Sand-bags may be used to keep the parts quiet, but tight bandaging, especially with elastic, seems to cause much pain and discomfort, and not to be very effectual. A good many cases have suffered from urinary incontinence for some days, but this has always passed off. The majority of cases recorded have ultimately made complete recoveries, though in some cases the convalescence has been protracted.

Koffer operated ten times, and had two deaths from phlegmon of the cellular tissue. Beuguier had a death from diphtheritic gangrene of the wound, in a case where he had been unable without symphysectomy to deliver after craniotomy. Vertheim and Pinard had each a death from sepsis, but the infection began in the uterus itself and not in the wound. Cystitis has been a troublesome complication, as also hæmatoma.

Ankylosis of a sacro-iliac joint has been given as a contra-indication of the operation, but Stoltz and Pinard have divided the ascending and descending rami of the pubes on the ankylosed side with success.

DISEASES OF THE THROAT.

By JOHN MACINTYRE, M.B.

On Intra-Laryngeal Injections in the Treatment of Diseases of the Larynx, Trachea, and Bronchi.—Dr. Adolph Bronner of Bradford, in a paper published in the *Journal of Laryngology* for June, 1894, reviews some of the agents used in the form of injections through the glottis into the cavity of the larynx. By this means the fluid passes not only into the larynx, but into the trachea and larger bronchi. He acknowledges our deep debt of gratitude to Professor Rosenberg, who first recommended menthol. Like many others, he not only uses this injection in laryngeal affections, but he states that in chronic laryngo-tracheitis he uses it very often. Dr. Bronner also states that after twenty or thirty injections the offensive odour of the expectoration may disappear altogether, and for some time. In foetid bronchitis and bronchiectasis the effect of intra-laryngeal injections is most marked. Europhen, guaiacol, and salol can be used, and he has also found excellent results from myrtol and oleum pimenthae.—(Report of Congress, *Journal of Laryngology*, June, 1894.)

Contribution to the Etiology of the so-called Follicular Angina.—Dr. John Sendziak of Warsaw has contributed an interesting paper upon this question at the International Medical Congress held in Rome in March last.

The question of the etiology of the disease known under the term "follicular angina"—properly lacunar tonsillitis, because the process is localised only in

the crypts of the tonsils, the follicles being unaffected—is not yet settled. The greatest number of authors, as B. Fraenkel, Ritter, Goldscheider, &c., relying on bacteriological investigations, regard this disorder as an independent pathological process, standing in no relation to the real diphtheria. Others, however, as for instance, Sokolowski and Dinschowski, basing their views on anatomic-pathological researches, maintain that lacunar tonsillitis, to which they add the term “pseudo-membranous,” is only a milder form of diphtheria.

Observations were made in twenty-two cases, and subsequently the number was brought up to thirty.

The author, after speaking of the various forms of micro-organisms found in follicular angina, states:—“Relying upon the clinical picture of this disease, and the results obtained by bacteriological investigations in my thirty cases, I maintain that the so-called follicular angina, or, better, lacunar tonsillitis, is clinically and histologically an independent pathological process, having nothing in common with true diphtheria. It is no doubt infectious, but we, unfortunately, do not know its specific virus.”—(Report of Congress, *Journal of Laryngology*, May, 1894.)

Vibratory Massage in Diseases of the Upper Air Passages.

—Dr. Michele Braun, of Trieste, brought this subject up at the throat section of the International Medical Congress at Rome. After referring to his first demonstration, given three years ago at the Berlin Medical Congress, he states that he now employs two principal forms of movement in massage of the mucous membrane of the nose, naso-pharynx, pharynx, larynx, and upper part of the trachea. These are stroking and vibration, and the two are combined in such a way that each part of the mucous membrane is thoroughly gone over.

It is to be observed, as the author stated, that the technique of vibratory massage is decidedly most difficult. In addition to an extraordinary amount of patience, it demands exact observation, innate and acquired ability, with a disposition of great and natural perseverance; one cannot obtain success easily; one must have the faith and firmness necessary to endure fatigues of the process. When once the first difficulties have been overcome, one will not fail in having the satisfaction of seeing how, with this method, one can obtain cure, or encouraging improvement, in a variety of diseases, many of them considered incurable, and rendering existence miserable or unsupportable to the sufferers.

Dr. Carl Laker read a paper on the “Science of Internal Massage of Mucous Membranes.” He claims this treatment to be an undoubted advance in therapeutics.

Dr. Ignazio Dionisio, of Turin, holds that the therapeutic value of this method is still *sub judice*. Considering the number of vibrations given by an expert hand varies from four hundred to eight hundred, and that the advantages of the probe depends upon tetanic contractions of the muscles of the arm, it was considered advisable to spare the operator the fatigue resulting from these manœuvres. A number of operators, including Herzfeld, Lehmann, and Ewer, thought of constructing probes, whose extremities could be automatically put in motion by mechanical means; Freudenthal, Stoerck, and Seligmann, use electricity; Garnault has made an electric vibrator, giving the movements of the probe in the antero-posterior and lateral directions. By this instrument, vibrations up to two thousand can be obtained. Dr. Dionisio has made an apparatus of his own, its object being to apply the treatment to nearly all its surface at the same time. The apparatus consists of an india-rubber bag, which is introduced into the nasal cavity and blown up with air; this serves to transmit the vibrations. It communicates by a tube with a generator of the vibrations.

A discussion followed, in which Dr. Chiari said that he had never seen any better results from this treatment than from ordinary painting of the throat.—(Report of Congress, *Journal of Laryngology*, May, 1894.)

Antiseptics in Diseases of the Throat.—Dr. O. B. Douglas recommends the following oily mixture as being an antiseptic of a mildly stimulating and soothing nature. The base of the mixture is benzoinal, which consists of benzoic balsam dissolved in pure vaseline oil. If too strong, it can be reduced by adding more of the base. It is specially useful in bronchitis and tuberculosis, and should be used by means of a hand spray:—Thymol, gr. x; eucalyptol, gtt. xx; menthol, gr. xxx; ol. cubebs, gtt. xxx; ol. benzoinal, oz. iv; ol. rosæ, q.s.—(Report from New York Academy of Medicine, Section on Laryngology and Rhinology, *Journal of Laryngology*, June, 1894.)

Destruction of Deviations and Spurs of the Nasal Septum by Electrololysis.—Dr. E. J. Moore of Bordeaux advocates this treatment in these affections. He says:—"Each needle is covered with a hardened caoutchouc mandarin (end of a urethral sound), which not only isolates it, but permits of the exact imitation of the depth of tissue to be destroyed, and is buried in the axis of the nasal fossa, parallel to the septum. The negative pole is placed, according to the case, over the centre of the spur, and the positive pole outside or above this latter. An important point is not to put any needle too near the base of the deviation, in order not to expose the septum to perforation. According to the volume and hardness of the growth to be destroyed, the intensity of the current should vary from eighteen to twenty-five milliamperer, and last from twelve to fifteen minutes. When the needles are well placed, these intensities suffice for the destruction, in a single sitting, of a spur or septal outgrowth in most cases.

"It scarcely needs mentioning that the needles are combined with an electric battery of at least thirty couples, connected with an ampere-metre and an immersion rheostat. The latter offers the great advantage of graduating slowly and without shock the electrolytic current, and diminishing it.

"It should be added that during electrololysis the opposite fossa ought to be watched through a speculum—i. e., the undeviated septum, in order to make certain that no gas escapes from this side, which would indicate that the electrololysis is carried beyond the point wished."—(Report of Congress, *Journal of Laryngology*, May, 1894.)

DISEASES OF THE EYE.

By FREELAND FERGUS, M.D.

Paralysis of the Superior Rectus.—This is the subject of a very interesting paper by Dr. Duane in the current number of *Knapp's Archives of Ophthalmology*. Most authorities are of opinion that a paralysis of the superior rectus alone and by itself is a very rare affection. The author agrees with Hulke in thinking that it is not so uncommon. Like any other muscular anomaly, it produces asthenopia, with headache, pain in the eyes, chronic irritation in the lids and conjunctiva, and a sense of fatigue. Speaking of the symptoms, Duane says that "the most constant and characteristic is spontaneous diplopia (both lateral and vertical). This is generally transient, but while it lasts causes a disagreeable sense of blurring and confusion."

Again, he says—"In the slight cases vertical diplopia is of constant occurrence only in extreme elevation of the eyes, or in extreme abduction. Even in more marked paresis the tendency to vertical diplopia in looking straight ahead is slight, and it is absent altogether in convergence and when the eyes are depressed." In other words, from the nature of the affection, the diplopia is not well marked in those parts of the field of fixation seldom used.

On the other hand, exophoria is always present, and constantly troublesome. Even in slight cases it amounts to so much as 3° or 4°.

The only treatment that seems rational is the use of weak correcting prisms, combined with suitable exercises.

Operation for Astigmatism.—For a number of years it has been known that every corneal incision—*e. g.*, for the removal of cataract, must give rise to a certain astigmatism. This is one of the reasons, although not the strongest, why an iridectomy should never, if possible, be made before the extraction of a cataract. It may thus be supposed that, if a corneal incision may so modify the curvature of the cornea as to produce an astigmatism, then we can also, by corneal incision, so alter the curvature of the cornea as to cure an astigmatism, or at any rate to modify it. Dr. Bates, of the New York Eye Infirmary, has in *Knapp's Archives* published what are, so far as we know, the first attempts at performing such operations. In suitable cases we doubt not that the same brilliant results will be obtained as have been already got by operation in high degrees of myopia. No doubt before long accurate data will be forthcoming, but meantime it seems to us a little hardy to operate for so low an amount of astigmatism as 1.5 D.

New Operation for Glaucoma.—Some considerable time ago we called attention to the observations of Nicati on the glands of the aqueous humour. Since that time he has proposed several operations as likely to be of use in the treatment of glaucoma, the last of his publications appearing in a recent number of the *Rev. Générale d'Ophthalm.*

The details of the operation as described there are as follows :—

A newly sharpened very narrow knife is, by puncture and counter-puncture, introduced into the inferior angle of the anterior chamber, in a manner similar to that of sclerotomy, as described by de Wecker. The point of the knife is made to project about one centimetre beyond the counter-puncture.

The knife is then rotated through 90°, so that its cutting edge is directed against the iris, which is thus easily incised. The knife thereafter is withdrawn in its second position, and the aqueous is allowed to escape. Nicati removes as completely as possible all blood from the anterior chamber. The operation seems to us feasible, and likely to give excellent results.

Detachment of the Retina is the subject of an interesting paper by Raehlmann. To his mind this affection is not due to contraction of the vitreous humour, as has been advocated by Leber and others. Two points which he adduces as disproving Leber's theory seem very important—(a) Certain cases of detachment of the retina spontaneously improve somewhat. Now, did the affection depend on dragging on the retina by a cicatricial contraction of the vitreous, then it is difficult to explain any elongation of the cicatricial bands so as to allow improvement; (b) in certain cases in which a foreign body is located in the vitreous, such bands are actually formed, yet only very rarely do we find them causing detachment of the retina.

Raehlmann tries to develop what he calls a diffusion theory, and says it is due to the fluid in the vitreous being saline, and therefore easily diffusible, and that in the choroid being highly albuminous and not so readily diffusible. He thus tries to explain detachment of the retina by much the same causes as are used to explain oedema in Bright's disease. The author indicates that detachment of the retina may be nothing more nor less than an oedema of Schwalbe's lymph spaces.

Books, Pamphlets, &c., Received.

- Atlas de Laryngologie et de Rhinologie, par A. Gouguenheim et J. Glover, avec 37 Planches et 47 Figures dans le texte. Paris : G. Masson. 1894.
- Text-book of Abdominal Surgery, by Skene Keith, F.R.C.S.Ed., assisted by George E. Keith, M.B., C.M. With Illustrations. Edinburgh and London : Young J. Pentland. 1894.
- Gout and its Relation to Diseases of the Liver and Kidneys, by Robson Roose, M.D., LL.D. Seventh Edition. London : H. K. Lewis. 1894. (4s. 6d.)
- Analyses of Twelve Thousand Prescriptions, by W. Martindale, F.C.S. London : H. K. Lewis. 1894. (2s. 6d.)
- Quain's Elements of Anatomy, edited by E. A. Schäfer, F.R.S., and G. D. Thane. In Three Vols. Vol. III, Part III : Organs of the Senses, by Prof. Schäfer. Tenth Edition. London : Longmans, Green & Co. 1894. (9s.)
- Spinal Caries, by Noble Smith, F.R.C.S.Ed. London : Smith, Elder & Co. 1894.
- The Middlesex Hospital, Reports of the Medical and Surgical Registrars and Pathologist for the Year 1892. London : H. K. Lewis. 1894. (2s. 6d.)
- The Harrogate Mineral Waters, by Arthur Roberts, M.D. Harrogate : Herald Office. 1894. (6d.)
- Catechism Series. Physiology, Part IV. Edinburgh : E. & S. Livingstone. (1s.)
- Examination Questions in Practice of Medicine. Part II : Skin Diseases. Edinburgh : E. & S. Livingstone. (1s.)
- The Mother's Help and Guide, by P. Murray Braidwood, M.D. London : The Scientific Press, Limited. 1894. (2s. 6d.)
- A Dictionary of Medicine by Various Writers, edited by Richard Quain, Bart., M.D., assisted by Fred. Th. Roberts, M.D., and J. Mitchell Bruce, M.D. New Edition. In Two Vols. London : Longmans, Green & Co. (40s.)
- A Treatise of Diseases of the Skin, by T. McCall Anderson. Second Edition, revised and enlarged. London : Charles Griffin & Co. 1894.
- The Physiology of the Carbo-Hydrates, by F. W. Pavy, M.D., F.R.S. London : J. & A. Churchill. 1894. (10s. 6d.)

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ORIGINAL ARTICLES.

SEVEN CASES OF MYXŒDEMA TREATED BY
THYROID FEEDING.¹

By ALEX. NAPIER, M.D.,
Physician, Victoria Infirmary, Glasgow.

THE first of this series of cases is that of Mrs. G., an account of whose condition and progress when first under treatment in May, 1892, was published in this *Journal* for September, 1892, p. 161, together with two photographs showing her appearance before and after thyroid treatment. At that time she was treated by thyroid extract given subcutaneously, and although the results were most gratifying the discomforts and risks of this mode of treatment were painfully obvious; indeed, after one of her injections a large abscess developed, while her temperature ran up to a few points above 104° F.

Mrs. G. was readmitted to the Victoria Infirmary on 5th April, 1893, suffering from an unmistakable relapse.² After

¹ Patient No. 1 (Mrs. G.) was shown at a meeting of the Pathological and Clinical Society on 14th May, 1894; condensed notes of the remainder of the cases were read on the same occasion.

² A report of her progress on this occasion was published in the *Lancet*, 30th September, 1893. It is shortly reproduced here, as it contains, I believe, the first published systematic and continuous analysis of the urine under thyroid treatment (if certain less detailed observations of my own, published in this *Journal* in February, 1893, be excepted), its interest

leaving the Infirmary in July of the previous year she continued well and active for some time, and was, in fact, shown at the Pathological and Clinical Society on 10th October, 1892, still free from myxœdema. Towards the end of that month, however, her symptoms began to return, commencing with pain and stiffness in the lower jaw. These were followed by pain in the back of the neck, lumbar region, and hips, by darting pains in the thighs and knees, and by an indisposition for physical exertion of any kind. She was also rather sluggish mentally, although emotional and disposed to weep if she was sympathised with; the face was again swollen, and the skin was tense, dry, and yellowish in general tint, with marked malar flush. The patient's condition, however, was not nearly so bad as when she was admitted in 1892: there was more acute intelligence, the speech was more rapid, the skin was smoother, and the hair was softer than on that occasion, but the sensation of cold was more keenly felt. Ventricular systolic mitral murmur present as before. The relapse thus resolved itself into increase in bulk, increased difficulty of movement, aggravation of general muscular pains, and very broken sleep.

The accompanying table shows the progress of the patient during her second residence in hospital. The temperature throughout was normal or subnormal, there having been none of the rise of temperature which had been noted when patient was formerly under treatment by hypodermic injection. The points to be noticed particularly are: (1) decrease in weight; (2) the diuretic action of the thyroid material; and (3) the very striking increase in the excretion of urea. The last-mentioned point is of value from the fact that under the same routine ward diet the urea rose from 330 grains in twenty-four hours (the minimum, noted on 15th April, and referring of course to the urine of the previous twenty-four hours) to 819 grains on 12th May. This may be taken as an index of the activity of the thyroid substance in accelerating tissue change, particularly of the myxœdematous material. The gland was given fresh and raw, finely chopped up, and stirred in a cupful of beef-tea or soup, the dose on each occasion being one lobe, equal to from 30 to 40 grains. Twelve such doses, in all, were given at the intervals indicated in the table. The urine throughout was acid in reaction and free from albumen.

lying in the demonstration it gives of the diuretic action of the thyroid material and the extraordinary increase in the excretion of urea to which it gives rise.

TABLE SHOWING THE PROGRESS OF THE PATIENT UNDER THE THYROID GLAND TREATMENT.

DATE.	WEIGHT.	THYROID GLAND GIVEN.	URINE.			
			Fluid ounces in 24 hours.	Specific Gravity.	Urea : grains per ounce.	Urea : total grs. in 24 hours.
1893.						
April 14,	...	...	37	...	...	...
" 15,	14 st. 2 lb.	Thyroid.	55	1015	6	330
" 16,	...	...	41	1018	11	451
" 17,	...	Thyroid.	76	1015	7	532
" 18,	...	...	56	...	...	...
" 19,	...	...	56	...	...	...
" 20,	...	Thyroid.	68	...	...	...
" 21,	...	...	46	...	...	...
" 22,	13 st. 9 lb.	...	94	...	...	...
" 23,	...	...	51	...	...	...
" 24,	...	Thyroid.	51	...	...	...
" 25,	...	...	42	...	...	...
" 26,	...	Thyroid.	68	1016	9	612
" 27,	...	...	60	...	...	...
" 28,	13 st. 3 lb.	...	68	...	...	...
" 29,	...	Thyroid.	52	1019	13	676
" 30,	...	...	60	...	...	...
May 1,	...	...	60	...	...	...
" 2,	...	Thyroid.	44	1021	14	616
" 3,	...	...	51	...	...	...
" 4,	...	Thyroid.	60	1019	10	600
" 5,	12 st. 13½ lb.	...	56	...	...	...
" 6,	...	Thyroid.	46	1022	12	552
" 7,	...	...	42	...	...	...
" 8,	...	...	45	1021	12	540
" 9,	...	...	42	...	...	...
" 10,	...	Thyroid.	42	...	...	...
" 11,	...	...	50	1020	11	550
" 12,	12 st. 10½ lb.	...	63	1021	13	819
" 13,	...	...	45	...	...	...
" 14,	...	...	42	1021	11	462
" 15,	...	...	47	...	...	...
" 16,	...	...	52	1020	12	624
" 17,	...	Thyroid.	36*	1021	11	429
" 18,	...	...	39*			
" 19,	12 st. 8 lb.	...	48	...	...	...
" 20,	...	Thyroid.	44	1019	11	484
" 26,	12 st. 5 lb.	...	...	...	...	...

* Diarrhoea.

Mrs. G. was dismissed on 26th May, 1893, again restored to perfect health and activity. She was shown, as above noted, at the Pathological and Clinical Society on 14th May, 1894, still in perfect health, and with no indication of relapse. It is true that her weight had again gone up (to 14 st. 1 lb.), but

as there was absolutely *no other* sign of myxœdema, one may be excused a disposition to regard the case as one of recovery from that disease. She showed none of the lethargy, physical and mental, which was so marked—unusually marked even for myxœdema—when she first came under treatment in 1892 (see this *Journal*, September, 1892, p. 162). When questioned at the above mentioned meeting, to test her speech, she replied sharply and at once, without slowness or hesitation; in fact, she had entirely recovered the volubility which was one of her well known characteristics in the years before she was attacked by myxœdema, a fact to which I can myself bear witness, as I have known Mrs. G. for about seventeen years. With this she has also recovered her physical activity, feeling “ten years younger:” she manages a small grocery business, can go quickly up three pair of stairs, take long walks, and do a long day’s work without unusual fatigue. The increase in weight seems due to normal fat, not to myxœdematous tissue. There are no other indications of the disease, the skin being smooth and normally moist, the hair natural in appearance and texture; there is no salivation, no sensitiveness to cold, no thickening or broadening of the hands or features, no “fatty” tumours above the clavicles, and no malar flush—a condition fully maintained at present date, 21st July. Since leaving hospital Mrs. G. has continued taking raw thyroid gland occasionally on her own responsibility, but during the five months preceding 14th May of this year she had taken only *two* doses. The quantity of the material therefore required to keep her in health is extremely small.

II. The second case is that of Mrs. M’G., who was also shown at the Pathological and Clinical Society on 10th October, 1892. The following is the hospital report:—

Mrs. M’G., aged 53, a stoutish-looking woman, who, however, weighed in hospital costume only 9 st. 11 lb., was admitted to the Victoria Infirmary on 27th September, complaining of swelling of face, body, and limbs. Patient had had eight children—three living and five dead—most having been delivered with instruments. She had two miscarriages. She ceased menstruating only three years ago. Her mother and five sisters died of “bronchitis.”

Present illness developed gradually, beginning about three years ago, when menstruation ceased, with pain in back and lumbar region, and swelling of face, body, and limbs, this swelling being most marked in the morning, and tending to disappear towards evening. The urine at the same time became

scanty, and micturition frequent. A year ago loathing of food began, and dimness of vision and vertigo, with breathlessness on exertion, were experienced. There was slight cough also, and constipation. Patient walked slowly on account of weakness, breathlessness, giddiness, and pain in back.

On admission the patient's subcutaneous tissues were found to be swollen, as above described, the swelling being firm and elastic. This was most noticeable above clavicles, on lips, nose, and forehead, though the entire face, and also the limbs and body, presented some swelling. In addition, the upper and lower eyelids, especially the right, were œdematous from actual fluid, while there was a small quantity of fluid in the peritoneal cavity. The hands were rough, large, and thick—"spade-shaped" in fact; the face was broadened, thickened, and had become coarser in expression, the lips being moved with some difficulty, and being rather tender on handling. Skin dry; hair dry and harsh; complexion yellowish-white, suggestive of anæmia, but with a brilliant flush in malar regions, sharply limited at upper margin. For six months patient had had abnormal sensations in her mouth, hot, sour, and salt substances giving a feeling of scalding. The teeth felt to patient as if loose, and the gums, though not spongy, were congested and tender, and the mouth was constantly swimming with saliva. Odour from mouth sour and offensive. Patient's articulation was slow and "thick;" questions were answered slowly, while the mental condition might have been described as dull and heavy.

Physical Examination.—In the lungs little abnormal was found, except a somewhat feeble R.M., though this was rather louder at the right apex, and posteriorly even slightly tubular. Heart: apex-beat in fifth interspace, 3 inches from middle line; impulse felt with difficulty; sounds at apex accentuated, first occasionally reduplicated; aortic second sound very short and sharp, but without murmur. Liver normal. Abdomen tympanitic, except at flanks, where there was some dulness, which shifted on moving patient. Pulse 62, small and of high tension, regular in rhythm and force. Respirations 12, sighing in character, with a long pause between each, and a shorter pause between inspiration and expiration. In thyroid region no gland could be felt. Knee-jerks normal. Temperature persistently sub-normal.

3rd October.—Blood contains 65 per cent hæmoglobin; cells 4,060,000 in cubic millimetre = 81 per cent. Cells pale, but not strikingly irregular in size or shape; the red have the appearance of nucleation; the white are not relatively

increased. Urine has varied in quantity from 16 to 36 oz. in twenty-four hours. On 29th September it was 16 oz., and only 1007 specific gravity, pale-yellow, neutral or alkaline, with no sediment, and non-albuminous.

5th October.—Urine in past twenty-four hours, 22 oz., specific gravity 1024; acid, straw-coloured, non-albuminous, increased phosphates; urea 12·4 gr. in oz. = 272·8 gr.

8th October.—Urine 23 oz.; specific gravity 1024; urea 9·92 gr. per oz. = 228·16 gr. in twenty-four hours.

12th October.—One gramme (one Koch's syringeful) of a glycerine extract of sheep's thyroid, equal to one-third of an entire gland, injected this morning into subcutaneous tissues between shoulders.

14th October.—Second injection: no fever after last.

26th October.—Seventh injection: patient's general appearance has improved, there being more brightness about face. Intellectual condition much improved. No fever after any of the injections.

30th October.—Ninth (and last) injection.

1st November.—Treatment by injection stopped. Thyroid now to be given by stomach, one-half gland daily, raw, finely chopped, and stirred in a cupful of cool soup.

6th November.—Since thyroid has been given internally, patient has complained of severely painful sensations in abdomen, back, and limbs. There is marked muscular debility, and patient is much less able to walk. Considerable pain on sitting up in bed, and on making pressure over spine from about third dorsal to lower lumbar vertebræ. Skin everywhere much softer and looser. Five thyroid lobes have now been given by stomach; the treatment (apparently too energetic) to be intermitted, as the remedy seems to be acting with some severity, certainly more violently than by subcutaneous injection.

11th November.—Administration of thyroid resumed, one lobe every second day.

21st November.—Five more doses of thyroid have now been taken, making, in all, nine doses by subcutaneous injection and ten by the mouth. The principal untoward effect arising from the second series of five doses by the mouth was a distressing sense of giddiness on raising the head from the pillow.

25th November.—Patient dismissed very much improved. Weight, 9 st. 4½ lb., showing a loss of nearly half a stone. There is very noticeable falling off in the patient's bulk, and a disappearance of the fulness about neck and above clavicles. The change mentally and in speech is most striking, the patient having become active in mind and able to talk with

usual rapidity and ease. The malar flush has much diminished, and the skin everywhere is loose, soft, and moist. Salivation has disappeared, and taste in mouth is normal.

It has not been thought necessary to reproduce patient's temperature chart, as the whole course of the case, even when the thyroid gland was given by subcutaneous injection, was absolutely afebrile, the temperature, indeed, being for the most part distinctly subnormal, often 97° F.

The effect of treatment on the secretion of urine was in some respects most striking. The quantity increased markedly from such daily amounts as 16, 22, 23 fluid ounces, to 41, 50, 56 fluid ounces. Another effect, suggestive of greatly augmented tissue change, was an increase in the total amount of urea excreted in twenty-four hours, and this while the patient was absolutely at rest in bed, and with no alteration in diet. The following table shows this very clearly:—

DATE.	WEIGHT.	THYROID GLAND GIVEN. (Total: 9 injections, and 10 lobes given by stomach.)	URINE.			
			Fluid ounces in 24 hours.	Specific Gravity.	Urea: grains per ounce.	Urea: total gra. in 24 hours.
1892.						
Sept. 29,	...	...	16*	1007	...	...
Oct. 1,	9 st. 11 lb.	...	24	...	...	...
" 2,	...	...	34	...	...	...
" 3,	†	...	10½	...	...	...
" 4,	...	...	22	1024	12.4	272.8
" 5,	...	...	36	...	...	...
" 8,	...	...	23	1024	9.92	228.16
" 12,	...	Thyr. inj.	...	...	...	...
" 14,	...	Thyr. inj.	25	...	13.6	340.0
" 15,	10 st. 4 lb.	...	...	...	...	...
" 16,	...	Thyr. inj.	...	...	...	...
" 18,	...	...	41	...	6.9	282.9
" 20,	...	Thyr. inj.	...	...	...	...
" 21,	10 st. 2 lb.	...	...	...	...	...
" 22,	...	Thyr. inj.	56	...	7.9	442.4
" 24,	...	Thyr. inj.	...	...	...	...
" 25,	...	...	50	...	9.4	470.0
" 28,	...	Thyr. inj.	...	...	...	...
" 28,	...	Thyr. inj.	...	...	...	...
" 29,	...	...	53	...	10.9	577.7
" 30,	...	Thyr. inj.	...	...	...	...
" 31,	9 st. 8½ lb.	...	...	...	...	...
Nov. 1,	...	Thyr. internally: One lobe daily.	...	...	...	...
" 2,	...	...	45	...	10.3	463.5
" 5-15,	...	...	32-36	...	...	...
" 11,	...	One lobe every second day.	...	...	...	...
" 16,	9 st. 4½ lb.	...	...	...	...	...
" 21,	...	...	49	...	...	...

* Neutral; no albumen. † Blood: 65 per cent hæmoglobin; cells, 4,060,000 in c.cm.

III. The third case in this series was Mrs. A., a private patient, transferred to my care by Dr. W. L. Reid on 7th November, 1892. The patient was 41 years of age, and, when first seen, presented an almost exaggerated and typical picture of myxœdema, a condition the beginning of which could be traced back for about eighteen years.

As a girl Mrs. A. had been healthy, but at 16 had rheumatic fever, said to have left no cardiac trouble behind it. She was married when 18½ years, and has had four children. She continued in perfect health and slender in figure till her third pregnancy, eighteen years ago, when she became generally stout and breathless; she never after regained her former figure. In this third confinement the placenta seems to have been adherent and retained, and very copious hæmorrhage took place. The patient herself attributes the onset of the myxœdema to this, and to emotional causes associated with the death of her mother and sister about that time, a dulness of disposition, slight melancholy, and a decided disinclination to speak being noticed even then along with the persistent increase in bulk. Eight years ago the chronic endometritis and uterine subinvolution, from which she suffered, gave rise to a most copious menorrhagia, which has recurred at every "period" since. It was particularly severe throughout the whole of the winter 1891-92, and in May and June, 1892; from middle of July till 3rd August, 1892, it continued without cessation, and again from middle till end of August; on 8th September it started again, and lasted for several weeks. All this has resulted in a most profound anæmia, the hands and fingers being waxen white, the general surface and the mucous membranes being completely blanched, while the patient is subject to frequent attacks of syncope, especially on rising from bed. Notwithstanding the anæmia, there is a vivid red triangular flush on the malar region. "Neuralgic" attacks, frequent and severe, probably associated with the anæmia, were suffered from for years, and for the relief of these the patient began to inhale chloroform, and for a considerable period kept up this dangerous practice, which would probably also increase the bloodlessness. These facts, together with the myxœdema, account for the life of absolute invalidism which this patient had lived for many years.

Note on 7th November, 1892.—This patient's condition may be shortly described as one of most profound anæmia, associated with most typical and marked myxœdema. Mrs. A. is stout (no definite weight ascertained), flabby as regards the texture of the tissues, broad and full in the features

(a fact distinctly observable in a photograph taken seven years ago), with face generally swollen, lips thick and loose, and mouth kept constantly hanging loosely open. Salivation began eighteen months ago, and is now constant and troublesome. Speech is "thick," slow and deliberate, this having become very noticeable two years ago, and is now so striking a symptom that it at once attracts attention. Skin perfectly dry, and has been so for about ten years; perspiration is never observed. The patient is extremely sensitive to cold, wearing always two complete suits of flannels, and a binder consisting of four layers of flannel round the waist. When going out she wears very heavy clothing, even in summer. She walks very slowly, being very easily tired and subject to vertigo. Hair is short, crisp, and dry. There is a universal fulness and thickening of the skin, an edema, which does not pit on pressure, noticed chiefly on the face (particularly about the eyes and in the lips, the latter being thick, loose, and pendulous), neck, supraclavicular regions, abdomen, and hands.

Treatment was begun at once. Dr. Reid applied carbolic acid freely to the interior of the uterus; this, assisted doubtless by the other measures adopted, put an end to the menorrhagia, which has never since returned. Three "Blaud's pills," each containing one-hundredth of a grain of arsenious acid, were given twice or thrice daily. *Three lobes* of sheep's thyroid were given weekly, a sufficiently energetic course (too energetic for most cases, especially to start with), but as patient was confined strictly to bed she bore it well.

12th November.—Mrs. A. has now been under the above-mentioned treatment for twelve days, five thyroid lobes having been taken. Already there is a most marked difference in her appearance. She is much thinner in face, body, and limbs; the skin is more flexible, the lips in particular being thinner. She suffers much from headache, due apparently to the thyroid feeding; her skin is moist—in fact she perspires rather copiously, for the first time in many years. The quantity of urine passed is also notably increased. A troublesome general itching is complained of.

21st December, 1892.—Altogether, seventeen thyroid lobes have now been taken. Myxœdema may be said to have gone. The subcutaneous swelling has everywhere disappeared, with the result that the patient might readily be taken for an entirely different person, or might be passed unrecognised by those who had known her formerly. The face has a healthy and natural look, in no way and in no part abnormally

thickened or swollen. None of her clothes will now fit her, boots, gloves, and everything else being much too large. Colour of skin and mucous membranes altered for the better, the complexion already showing traces of ruddiness instead of deadly pallor, while the nails are now pink. Salivation quite gone. Speech as free and fast as ever it was. Headache is not now so severe, and the itching is less troublesome.

9th January, 1893.—Mrs. A. is now practically perfectly well. She perspires on exertion; the skin is everywhere supple, and normal to the touch; hair markedly softer. Patient feels much lighter, stronger, “firmer on her feet,” has no vertigo, is no longer easily tired, and is now no more sensitive to cold than other people, wearing only an ordinary amount of winter clothing. The last monthly “period” lasted only two days. Thyroid administration ceased on 30th December, between which date and the preceding 9th November, a period of about seven weeks, twenty thyroid lobes had been taken.

21st July, 1894.—Mrs. A. has continued to enjoy perfect health since date of last note, but she insists on having one thyroid lobe per week, being of opinion that a dose so small and so easily taken, and so reliable as a preventive of relapse, is a simple and reasonable precaution which she ought not to neglect. She had no thyroid in January, 1893, but since February of that year she has had thyroid gland at the rate, over all, of one lobe per week. “Tabloids” and extracts have from time to time been tried, but, as they gave rise to disagreeable symptoms (chiefly headache), the patient prefers the raw gland. My own impression is that such treatment is unnecessary, especially as the patient did a six weeks’ tour in France and the Pyrenees in the autumn of 1893, *without thyroid* in any form, and came home with no trace of the affection. Perhaps a dread, not unnatural in the circumstances, of a possible return to her former condition has something to do with the patient’s demand for a weekly dose of thyroid gland.

IV. The fourth case is that of Mrs. B., transferred to my care by Dr. W. L. Reid.

Note made on 3rd November, 1892, when first seen.—The patient, Mrs. B., is 45½ years of age. Her ailment dates back six and a half years, when, during summer weather, she became feeble, irritable in temper, and very easily fatigued. At this time the general swelling was such as to suggest kidney disease, and this was repeatedly examined for, with a

constantly negative result. A large carbuncle which appeared on right side shortly afterwards weakened her still more. Patient has never had rheumatism, nor indeed any other illness since childhood except hay fever, to which she has been subject since she was eight years of age. Since present illness began, nearly seven years ago, the hay fever has not troubled her. Catamenial discharge was always extremely copious, and lasted six days; it gradually ceased about three years ago, reappearing only once, in December last, when it lasted nearly a week, the discharge showing some clots (an unusual experience with this patient), but being less in total quantity than formerly.

The slowness of speech, which is now very marked, began to be noticeable about four years ago; the singing voice was early affected, even singing in church involving considerable effort. The voice ever since has had the cracked, broken, husky quality so characteristic of the disease.

Salivation, occurring especially at night, and sufficiently copious to stain the pillow, began four years ago. Patient's sense of taste was much blunted, insomuch that one kind or strength of tea could not be distinguished from another and really very different sample; warm foods and drinks, such as one in normal health could take easily, burned and irritated the mouth. There was often a distressing sense of choking also, felt specially at night in bed, rarely during the day.

The patient's greatest or almost her greatest discomfort was the degree to which she suffered from exposure to cold, particularly to a cold wind or in frosty weather. In such circumstances, or on putting her hands into cold water, the sense of chilling was extreme, this being often accompanied by a stinging sensation, as if the skin had been whipped with nettles; the face and hands swelled at once, and became reddish, and then bluish and deadly cold. Patient suffered most of all in frosty weather, when she could go out only if the face were protected by a thick veil; in fact, in wintry weather her bed was the only place in which she enjoyed any degree of comfort, and then only when heavily covered with bedclothes. Cold weather, or walking against a cold wind, also invariably inflamed her eyes, the conjunctivæ becoming red and considerably swollen. Hands and feet felt constantly cold, and were actually cold to touch.

The hair soon became dry and crisp. The skin in general also was dry, being rarely even moistened with perspiration. Patient relates one incident which emphasises this condition of skin: when walking on a very hot day on the slopes of

Ben Lomond, all her friends perspired most copiously, while her own face was simply deeply flushed, purple in fact, but perfectly dry.

This patient had been seen by Dr. Ord of London, and had had all the usual treatment, such as hot baths, massage, jaborandi, baths at Aix-les-Bains, &c., generally with some temporary benefit. She was now put on thyroid gland treatment, one half lobe every second day, beginning on 7th November, 1892.

12th November.—Patient has had three doses, which have agreed well. Already speech is more rapid; swelling of face, especially about eyes, much less; lips much more flexible; pulse 72, its former rate having been 60 on an average; urine increased; some pain in back and lower limbs. Mrs. B. states that she feels much better and lighter than she has felt for years.

18th November.—Patient has now had six doses of thyroid gland, and already the change in appearance, &c., is most marked; her husband says "she is like herself ten years ago." Face practically normal, speech much faster, lips thinner and more flexible, skin moist, and perspiration readily induced even on slight exertion. Considerable pain in head, back, and limbs, and much muscular debility, are complained of, patient being scarcely able to walk on account of fatigue, these symptoms being probably due to too energetic administration of thyroid gland, which is now to be given only twice a week.

25th November.—Patient still better; face practically normal in appearance; speech normal. So far, eight doses of thyroid have been taken.

21st December.—Menstruation returned a few days ago, rather copiously—the first appearance of such discharge for three years. Of myxœdema there is now practically no trace. There is no undue sensitiveness to cold; the singing voice has returned; salivation has gone; the sense of taste is normal; the hair is softer; and the skin is moist. In personal appearance she has wonderfully changed: her own sister, who had not seen her since treatment commenced, actually passed her on the street without recognising her! Up to present date fourteen doses of thyroid have been taken.

30th December.—Thyroid treatment suspended; seventeen doses have been taken so far.

23rd January, 1893.—A copious eruption of *erythema multiforme* has appeared on hands, face, and neck.

1st February.—Eruption almost gone. Menstruation reappeared five days ago rather copiously—the first since

15th December last. There are some indications of relapse as regards myxœdema; hands, face, and outer triangles of neck again puffy and swollen; salivation has returned, with broken sleep and a feeling of general debility. The ability to sing is again greatly diminished. To have two lobes of thyroid gland weekly.

14th March.—Much better; natural menstrual discharge has reappeared.

13th April.—Mrs. B. is suffering from a marked seizure of "hay asthma," an affection to which she was very subject before being attacked by myxœdema, but from which she was entirely free while myxœdema lasted.

18th October.—Mrs. B. continues well while she takes an occasional dose of thyroid gland or glycerine extract of thyroid gland, but immediately relapses on ceasing to take the remedy. She has "altered" regularly during the past six months.

21st July, 1894.—For many months Mrs. B. has been taking a glycerine extract of thyroid gland in such a way that the extract of one gland lasts one month, one fourth part of this extract being taken each week. This very small quantity suffices to keep her well and free from myxœdema.

V. The fifth case was that of Mrs. C., transferred to me by Dr. Finlayson.

10th June, 1893.—The patient is aged 49, and weighs 11 st. 9 lb. Menstruation began to be irregular about five years ago, when it ceased for nearly eighteen months; more recently it has often been absent for several months, but was rather profuse when it did appear. Last "period" ten days ago.

Mrs. C., like many myxœdematous patients, connects the onset of her disease with nervous worry and general physical and mental exhaustion. Her husband died, after a long illness, fourteen years ago; shortly after, a daughter died of scarlet fever, and she herself was attacked by diphtheria; eighteen months later a son developed infantile paralysis: a series of trials which naturally involved much physical fatigue, and long and anxious periods of nursing. Patient thinks that her present symptoms began about eleven years ago, when she became "nervous," easily excited, had a disposition to run rather than walk when out of doors, and had a sensation as if the hands were unnaturally large (especially when she assumed the recumbent posture), though she is inclined to think her hands were not really increased in size at that time; nevertheless, a photograph taken fifteen years ago shows that

even then the hands were decidedly thickened, and her husband, who died fourteen years ago, often spoke of her altered appearance since the birth of her last child.

Mrs. C.'s family history is excellent: her father died aged over 70; mother alive and well at 74; three brothers and one sister living, all healthy; three or four brothers or sisters died of scarlet fever and measles.

For at least eleven years patient has been conscious of a full, padded feeling in neck, and the tissues about the eyes have been so swollen that the presence of renal disease has been again and again suggested, though no sugar or albumen has ever been found in the urine. Urine tested to-day, with the same negative result.

From the first Mrs. C. has suffered from breathlessness and exhaustion, particularly on even slight exertion, as in going up a very inconsiderable slope. Among her early "nervous" symptoms also was a certain dull, dreamy, or lethargic condition, in which she might read, or listen to a sermon in church, without understanding much of what was presented to her mind. One of the most striking symptoms present is connected with speech: while speaking, in the husky or cracked voice so common in myxœdema, she often suddenly ceases talking, or talks more and more slowly, and leaves her sentences unfinished; the voice also is absolutely, though temporarily, lost on making even the slightest exertion while speaking, even lifting the arms above the head, or stretching them out, or folding them across the chest, sufficing to extinguish the voice entirely for a time.

Mrs. C. has for years had a "languid circulation," her feet and hands invariably felt cold and were actually cold to touch, while any cut or other wound was very slow in healing. An injury to the left thumb five years ago took a very long time to get well; about three years ago, however, some hard fibrous piles were removed, and there was no hitch either with the chloroform or as regards the wound, though a supplementary operation had to be performed.

In all respects Mrs. C.'s condition was that of typical myxœdema: there was no trace of thyroid body to be felt in the usual situation; the face, limbs, and trunk presented the usual subcutaneous swelling; the malar flush, the reddened nose-tip, the thick rough hands, the dry, and in places scaly skin, the salivation, the sense of cold, all were present.

This patient's chief discomfort was her extraordinary sensitiveness to cold, extraordinary even for myxœdema; even in bed in the extreme heat of this summer (1893) she

felt cold. I was permitted to make the following note of her clothing while in bed: a thick woollen undershirt, a night-dress and dressing jacket of the same material, several small shawls, several pairs of woollen blankets, a down bed-quilt, and a very warm foot-warmer; and yet she felt chilly! Without these she would have "perished from cold." Temperature, 97·2; pulse, 84; regular, but feeble. V.S. aortic murmur; first sound at base rather louder than second.

Treatment.—In view of patient's obvious debility, the thyroid administration was begun cautiously: a quarter of a thyroid lobe on 13th June, a half lobe on 16th and 20th.

21st June.—Already a most marked improvement is noticeable. The general swelling, especially of hands and feet, is greatly diminished; the "padded," stiff feeling about the neck is gone; the voice is natural in tone, and does not fail on exertion or when the arms are moved. But the most striking change, and that which has astonished patient most, is entire freedom from the former sensation of chilliness or cold; Mrs. C., in fact, states most positively that this feeling disappeared completely, and apparently for good, *after the first dose of thyroid gland!* She suffers now rather from the heat of this very warm season, and perspires freely, a sensation to which she has been for years a stranger. The first dose was followed also by return of menstruation.

From this date onward the patient's condition underwent the usual steady improvement: the malar flush became less and less marked; the face became thinner, and altered entirely in expression; and from day to day the features with which her friends had been familiar years ago became again discernible, while a strong resemblance to her mother, which had been quite buried in the myxœdematous swelling, came more and more strikingly to the surface. There has so far been unusually little disturbance from the treatment, the muscular pains so commonly resulting from thyroid feeding having been very slight.

31st July.—Mrs. C. has now had thirteen doses of thyroid, and has lost 19 lb. in weight. Myxœdematous swelling quite gone. No salivation. Complaint made of pains in limbs, noises in the head, palpitation, some pain and oppression in cardiac region especially on exertion, considerable muscular debility, a persistent sensation of heat, a general itching of the skin, and universal desquamation.

21st August.—Only two thyroids taken since date of last note. Patient still has palpitation on exertion, but is much stronger, and can walk faster up a hill; desquamation still

going on, the hands having peeled completely, while the soles are now undergoing the same process.

5th September.—Patient still better. She has recovered her appetite, and could eat every few hours; she has increased 2 lb. in weight, and is rather sleepless. The skin still itches, and peeling is still going on and in large pieces. She can now walk faster than for many years, but still has some palpitation and oppression in chest on going up stairs.

20th September.—Patient has gained other 4 lb. in weight, but she has only had one thyroid since last note. Her appetite has lately been hearty, while during the time she suffered from myxœdema she did not care at all for food; hence, probably, the recent increase in bulk. There is, moreover, still a complete absence of any trace of symptoms of myxœdema.

4th October.—Only one thyroid since last note. Weight up to 11 st. 4 lb., only five pounds short of weight before starting treatment. And yet, with this increase in weight, there is no sign of myxœdema or of the distressing symptoms which accompany it. Thyroid resumed at rate of two lobes per week.

8th January, 1894.—In November last, on 15th December, and to-day, patient's weight, 11 st. 4 lb.; but, with all this increase of what is now apparently normal fat and not myxœdematous tissue, there is no sign of any return of the symptoms which formerly gave her so much trouble and anxiety.

21st July.—Patient has for many months been taking a glycerine extract of thyroid gland, equal to one-half lobe weekly, and finds this sufficient to keep her in health and activity.

VI. *2nd June, 1893.*—Mrs. D., aged 44, a stout lady, with a decidedly florid complexion. Menstruation regular and copious. Patient has had eleven children and three miscarriages, with septicæmia after birth of last child four years ago. Present condition is ascribed to "nervous" causes, worry, and fatigue. Most, but not all of the classical symptoms are present: the cracked voice, the constant feeling of cold, muscular debility, the dry and rough skin, salivation to such an extent that the pillow is stained every night, a most marked malar flush and reddening of tip of nose and chin, much elastic swelling over clavicles and about eyes, and thickened and "spade-shaped" hands. There is, however, no mental lethargy, nor is there any slowness of speech or in writing. Pulse 120, but fair in volume.

Treatment.—Two thyroid lobes weekly.

8th June.—After one week of treatment, two doses of thyroid having been taken, patient feels lighter and stronger, the skin is softer and smoother, and the head is moved freely, the stiff and padded feeling in the neck having gone.

7th August.—Reduction in bulk and improvement in general condition still go on. No accurate record of weight obtainable.

11th September.—Patient still further diminished in bulk, the waist of her dress being lessened by six inches! Her friends notice specially the change in her voice, which is now as it was before the myxœdema appeared—full and round and smooth, with nothing of a “cracked” or husky character. Patient menstruated two months ago, but very scantily, and not since; before that time she was fairly regular, and discharge was always copious.

21st July, 1894.—Patient finds she can keep herself in health and all her old myxœdematous symptoms at bay, by taking an occasional small dose of glycerine extract of thyroid gland.

VII. Mr. E., aged about 45 years, a private patient of my own. Of this case I have unfortunately fewer notes than of the preceding cases, chiefly because Mr. E., having read in a daily paper an account of this hitherto intractable disease and of the recent methods of dealing with it, recognised its application to his own condition and took his treatment into his own hands, and so far with perfectly satisfactory results: a few doses of one or other of the advertised preparations of thyroid gland, taken when they seem to be required, enable him to keep his troubles at arm’s length. This is the only instance in which I have come across clear and unmistakable myxœdema in the male sex.

Mr. E., like most of the patients already referred to, had a history of considerable and long-continued worry for a time preceding the more marked development of signs of myxœdema. It was only about the end of 1892 that these signs became urgent, though on looking back one can recall to mind various indications of the approach of the disease, such as lachrymation and turgescence of the face on exposure to cold, an occasional “cracked” tone of voice, ascribed to “cold,” and more particularly very feeble action of the heart. In the autumn of 1888 this gentleman suffered from acute pneumonia, involving the upper lobe of the right lung, and from this he recovered perfectly but very slowly, resolution being much

longer delayed than is usually the case. At this time, also, the extreme smallness of the pulse, and the feebleness of the heart's action, were noted. It is certain, moreover, that most of the symptoms of myxœdema began to appear after this illness; from that time onwards, at anyrate, they became gradually more and more noticeable.

In the end of 1892 the presence of myxœdema was unmistakable. The face showed the characteristic flush and the usual swelling, especially about the eyes and lips; there was general subcutaneous puffiness and swelling, while the hands presented, in an almost exaggerated degree, the usual thickening. With this his weight had gone up; he had become breathless and easily tired on making any exertion, and afraid to face an ordinary flight of stairs; his voice, also, had become husky, unmanageable, and unreliable, often "cracking" while he spoke; the eyes were constantly watering, and there was a persistent discharge of watery fluid from the nose; as before, the heart's action continued rapid and feeble; no apex beat could be felt; the sounds were almost inaudible, but, so far as could be determined, there was no murmur. The most urgent and also the most suggestive symptom in this case was the extraordinary effect which followed exposure to cold—to the chilly air of a frosty morning, for example, or to the east wind: lachrymation became very copious; the face immediately swelled to a distressing degree, became deadly cold, even to touch, and of a livid purplish-red colour; the hands at the same time became almost double their ordinary size, the fingers puffed like small sausages, stiff, cold, and almost immovable, and of a dull bluish-red colour. The sensation of powerlessness and of cold in the hands was bitterly complained of; no kind of gloves sufficed to keep the hands warm. The hands, in fact, suggested strongly the condition seen in the congestive variety of Raynaud's disease.

To the patient it was a pleasant discovery when he found that all these discomforts could be obviated in such a simple way as taking, now and again, a few doses of some thyroid preparation. Under the influence of a few ounces of glycerine extract of thyroid gland, made and supplied by me, supplemented by an occasional course of other preparations taken on his own responsibility, Mr. E. was able to keep himself comfortably free from symptoms of myxœdema, to effect a steady diminution in his weight (12 st. 6 lb. to 11 st. 8½ lb.), to remove the swelling of face and hands, and relieve himself entirely of his former extreme sensitiveness to cold; and all this was managed without abstention from his usual

business and without discomfort, but rather with a daily sense of increasing strength and ability to overtake his day's work.

This patient continues, I believe, to take thyroid preparations as he feels that he needs them.

Arising directly out of a consideration of this record of cases, a great many subjects of surpassing interest present themselves—the relation, for example, of myxœdema to other pathological conditions, as to Raynaud's disease, to various forms of heart disease, anæmia, Graves' disease (a most curious example of what might be called *pathological antagonism*), the phenomena of the menopause, hysterical and other allied mental states; the effects of the remedy, immediate and remote; the best method of administration; the question of relapse, &c., &c. To these subjects I cannot now refer, but I hope in the immediate future, and in this *Journal*, to submit some reflections upon them which have occurred to me when dealing with the cases now reported.

NECROSIS OF THE PANCREAS WITH CYST FORMATION AND FAT NECROSIS.

By GEO. S. MIDDLETON, M.A., M.D.,

Physician to Glasgow Royal Infirmary.

ON 19th December, 1893, being in Coatbridge, I was asked by my friend, Dr. J. S. Rennie, to see a case, as he believed, of enlargement of the liver, the cause of which he was in doubt about. I found the patient to be an extremely obese woman, but there was no difficulty in making out on palpation a large mass or tumour in the upper part of the abdomen, the greater portion of which seemed to be to the left of the middle line. From the left hypochondriac margin to the umbilicus, apparently in close proximity to the abdominal wall, there was felt a solid mass with a somewhat rounded margin, and over this area a light percussion stroke gave a dull note. On carrying the hand across the epigastrium into the right hypochondrium the solid mass ceased to be superficial, but could be felt by deep palpation. Overlying it was apparently the stomach, which gave a tympanitic note on percussion, and an undue amount of splashing when the body was shaken. The general

impression left on my mind was that the mass was not hepatic, but probably splenic or peritoneal. As she could be better attended to in the Infirmary than at home, it was agreed that she should be sent into my ward, which she entered on 23rd December, where the following notes were made:—

Mrs. A., æt. 34, a housewife, was admitted complaining of "burning pain in the stomach and vomiting of food;" she dated her illness from her last confinement, at the end of July, 1893.

The labour was easy, but she never quite recovered her health, although she was soon up and going about. She then began to suffer from pains in the gastric and hepatic regions, not of a very severe nature, and from excessive thirst. These were treated with ordinary hepatic stimulants, and she seemed to improve. Three or four weeks prior to admission the pain in the stomach became much aggravated, and she suffered so severely from these "cramps," as she called them, as to require treatment by morphia, which gave her temporary relief. For about the same time there had been excessive constipation and urgent vomiting. The bowels required to be moved by enemata, and the motions thus obtained were described as being dark in colour. She could take no food without vomiting, which occurred immediately after anything was taken into the stomach, and without any effort or straining. The vomited matter was said to be very abundant, watery, and of a green colour. Previous to this time she had never vomited.

She had had eleven children, having had twins three times. The twins all died in early infancy, but the other five children were alive and well. On the whole, she had been a very healthy woman. She was said to have suffered from palpitation for two or three years, and she had an attack of bronchitis a year ago, but with these exceptions she had never been ill. Her confinements were always easy.

On 23rd December, her urine was found to have a sp. gr. of 1010, and a neutral reaction, and to contain a trace of albumen. In the sediment were found hyaline casts and fatty cells. There is no note as to the presence or absence of sugar.

When I saw her on 24th December, the physical signs seemed more like those of enlarged liver with dilatation of the stomach, and in the right hypochondriac region there was felt an irregular mass, suggestive of disease of the pylorus. Just about and above the umbilicus there was tenderness on pressure. An enema was given, and a considerable amount of faecal matter removed, without scybala.

On the morning of the 25th December, she was found suffering from high fever and collapse, and was so evidently moribund that further examination was not attempted. She died on the afternoon of that day.

During her residence in hospital she had very little vomiting. On the first day she vomited twice; the vomited matter was watery and greenish, and the quantity was large on both occasions. There was no further vomiting till shortly before death, when large quantities of a fluid like "coffee-grounds" flowed from her mouth. She made no complaint of pain in the abdomen, but she had a feeling of "burning in the stomach" which led her to drink large quantities of water. She was rather anæmic, the pallor of the skin having somewhat of an earthy tint, but she was not jaundiced, and had never been so. The quantity of urine passed was large, especially during the last night.

On the first night of her residence she was restless, but quite sensible, and she slept a little. Her temperature, which, while under Dr. Rennie's care, had never been observed to be febrile, was at that time 100° F. On the evening of the 24th December, the temperature had risen to 103°, and that level was maintained during the night, when she was very restless and delirious. This condition had supervened without any marked aggravation of the symptoms, and was maintained throughout the early part of the 25th December, passing gradually into coma. Before death a temperature of 105° was recorded. The pulse varied from 124 to 136, and the respirations from 30 to 40, the observations being taken, however, only after the temperature had risen to 102°.

An examination of the body was made on 26th December by Dr. J. Lindsay Steven.¹ There was found no tumour in the ordinary sense of the term, but there were two conditions which might readily have given rise to a feeling of tumour during life—viz., (1) an enormous mass of fat in the omentum, measuring an inch in thickness and weighing 32 oz; (2) surrounding the pancreas a large cyst, the walls of which were formed by adjacent organs through adhesions which had taken place. The cyst contained a large quantity of opaque black fluid, free from gangrenous odour, and in its interior there was found a black body, apparently the necrosed pancreas.

The stomach was moderately dilated, and contained a light brown fluid; its mucous membrane, as well as that of the

¹ Dr. Steven recorded this case from the pathological standpoint at the International Medical Congress at Rome. See *British Medical Journal*, 1894, vol. i, p. 796.

intestines, was strictly normal; there was no pyloric obstruction or tumour. The liver was soft and pale from moderate fatty infiltration. The kidneys were pale and of soft consistence, without obvious renal disease. The spleen was somewhat enlarged, and of a dark red colour from congestion. The uterus and its appendages were quite normal. The thoracic organs were practically normal. In the heart there was a large quantity of fluid blood which showed no signs of coagulation.

The urine withdrawn from the bladder had a normal appearance, and its specific gravity was 1025. It contained a trace of albumen, and the sediment showed some hyaline casts. In addition, sugar was noted to the extent of 14 grains per ounce.

Lastly, in the fat of the abdominal wall, which measured two inches in thickness, as also in the fat in the omentum and elsewhere in the abdominal cavity, there were dirty white opaque patches of what has been described as "fat necrosis."

That this case had been diagnosed as enlargement of the liver did not in the least surprise me. The physical signs were so extremely like those of hepatic enlargement, that Dr. Rennie, who had made frequent and careful examinations of the abdomen, was convinced only by the *post-mortem* examination that the abdominal mass was not hepatic. On the other hand, the results obtained from that examination came as a surprise in many ways. I had expected that a large solid tumour would be found, connected either with the spleen or with the peritoneum, but there was nothing of the kind. It is interesting, therefore, to note that a very large accumulation of fat in the great omentum, combined with a large cyst surrounding the pancreas, gave rise to such a feeling on palpation.

It is difficult to be certain of the various steps in the pathological process revealed by the *post-mortem* examination, but I believe it is most probable that the disease took origin in an acute or subacute pancreatitis, arising from some unknown cause, and followed by hæmorrhage and necrosis; and it is not unlikely that the attacks of "cramps in the stomach" were associated with these latter. The hæmorrhage and necrosis probably did not occur till a certain amount of peritonitis and adhesion had taken place among the viscera surrounding the pancreas, and in this way general peritonitis was prevented from occurring.

Within the past few years a considerable amount of work has been done in regard to the diseases of the pancreas. The

most notable communication on the subject of acute pancreatitis has been the Middleton-Goldsmith lecture,¹ delivered before the New York Pathological Society, by Dr. Reginald H. Fitz, Professor of Pathological Anatomy in Harvard University. In Dr. Fitz's words—"The common symptoms of acute pancreatitis are sudden, severe, often intense epigastric pain, without obvious cause, in most cases followed by nausea, vomiting, sensitiveness, and tympanitic swelling of the epigastrium. There is prostration, often extreme, frequent collapse, low fever, and a feeble pulse. Obstinate constipation for several days is the rule, but diarrhoea sometimes occurs. If the case does not end fatally in the course of a few days, recovery is possible, or a recurrence of the symptoms in a milder form takes place, and the characteristics of a subacute peritonitis are developed. The symptoms are essentially those of a peritonitis beginning in the epigastrium and occurring suddenly during ordinary health, without obvious cause." From this it is clear that the symptoms associated with disease of the pancreas are not such as conclusively to indicate the nature of the affection. In the above case, the history tells of a sudden aggravation which may have been of the nature of an epigastric peritonitis, but the aggravation came on in the course of what was an illness already of some duration, and I do not think that in the circumstances a correct diagnosis could have been made. The specific gravity of the urine on the one occasion on which it was examined in the ward did not suggest the presence of sugar; but, even had sugar been present, it would have been a very slight ground for the diagnosis of pancreatic disease; indeed, Fitz makes but little reference to glycosuria in his analysis of cases.

The occurrence of fat necrosis appears to be common in association with pancreatic lesions, and especially with those of a necrotic or gangrenous form. This was pointed out by Fitz and others some years ago, and has more recently been made the subject of a communication to the *Transactions of the Pathological Society of London*, 1893, by Dr. H. D. Rolleston, from which it will be seen, that while some writers believe that the fat necrosis is the primary lesion and the pancreatic disease the secondary one, most are of opinion that their relationship is just the reverse of that. The arguments of those who hold the latter view seem to me to carry most weight.

¹ *Proceedings of New York Pathological Society*, 1889; also printed in the *Boston Medical and Surgical Journal*, vol. cxx, p. 181. An abstract of this lecture will be found in the *Glasgow Medical Journal*, November, 1889, p. 395.

CLINICAL MEMORANDA,
BEING SELECTED CASES FROM THE WARDS OF

DR. M'CALL ANDERSON,
Professor of Clinical Medicine in the University of Glasgow.

(REPORTED BY WM. R. JACK, M.B.)

X.

18. *Spinal Symptoms consequent upon Caries of the Vertebrae.*

A. G., female, 10 years of age, was admitted on 16th November, 1893, after a week's stay in Professor Buchanan's wards. Her complaint was of weakness and stiffness of the legs.

In the third week of January, 1893, she had a severe attack of enteric fever. She recovered slowly, and was sent on the 8th of May to a convalescent home at Largs. While there, about the end of May, she fell on her back on some bricks, a week after which her present symptoms set in. The first of these was pain in the spine between the shoulders, followed later by pain in the small of the back and in the left shoulder. These pains were supposed at the time to be rheumatic. She returned from Largs on the 1st of August, when her parents thought her not so well as when she went there. She then complained greatly of pain in the upper dorsal and lower cervical spine, these parts being very tender on pressure. She also had pains in both shoulders, especially the left, and they at times shot down both arms, causing her to cry out. Her power of walking gradually grew less, the legs becoming weak and stiff. Nine weeks before admission a swelling was observed above the left iliac crest. There was throbbing pain in it, and, as it did not improve, she was sent to the surgical wards on 8th November. While there the swelling did not increase in size, and was painless. She was therefore transferred to Dr. Anderson's care.

Examined on admission, the skin was found to present a slight roseolar rash, fading on pressure. She lay in bed in a somewhat rigid posture, moving very little. She perspired freely. The lower limbs were found to be very stiff and rigid, and ankle clonus was distinct on both sides. The knee-jerks could not be elicited, probably owing to the rigidity. She could not stand with her heels together, even with the eyes

open, and in walking had to be supported on either side. It was then observed that she raised the feet a good distance from the floor, and kept them widely separated. She has never had involuntary spasms of the legs, but at times voluntarily draws them up on account of shooting pains in them. The head was held very stiffly, and the movements of the neck were limited, especially in a backward direction, but also laterally. Pressure upon the spine gave rise to pain over the sixth and seventh cervical vertebræ, and also over the lumbar vertebræ. There was also a fulness above the left iliac crest, where pressure gave severe pain. Her general health seemed to be good. She was well nourished, and had been growing stouter during the month before admission. The urine was normal, but, for a short time after admission, there was incontinence.

She was put upon half a drachm of syr. phosphori three times a day, and was ordered absolute rest on her back. This was the sole treatment. Under it the symptoms improved one by one. Five months ago the shooting pains in the legs had ceased, and a month later the pain in the back disappeared. Three months ago the ankle clonus could no longer be obtained. At the same time the iliac swelling gradually diminished in size, and the rigidity began to grow less. Two months ago pain set in in the small of the back and down the left leg, but had quite disappeared in six weeks. She has been getting up for about a month.

Examined upon the 24th of May, 1894, it was found that clonus had completely disappeared. The knee-jerks were still absent, although rigidity was gone. She could now walk without assistance. In doing so, she swayed slightly from side to side, and the right foot had a somewhat stamping tread. The feet were well turned out, and kept somewhat apart. She could walk backwards without difficulty, but could not keep to the line of a single plank, and in turning rapidly she staggered. When standing with her heels together, and her eyes shut, there was considerable lateral oscillation.

Her general health has been good throughout, and her temperature has always been normal.

19. *Case of Pseudo-hypertrophic Paralysis.*

P. B., a boy of 8, was admitted on the 9th May, 1894, complaining of weakness of the legs of about two years' duration.

The family history had no bearing on the case.

His mother says that he never was a good walker, although he was a strong child, and began to walk when 10 months

old. Two years ago he had measles, and has not been strong since. He went to school at that time, and since then the defect in his gait has become much more noticeable.

The first symptom observed, two years ago, was that he was very apt to fall, and had considerable difficulty in rising. From that time also there was a tendency to walk on the toes. He began, too, to find it hard to go upstairs, and to do so he always put the right foot first, and dragged up the other after it. He can run very little, and does so on his toes. His mother has noticed that the calves of his legs have been increasing in size, but at the same time becoming softer than formerly. She has not observed any difference in the arms, which she thinks are not weaker than they were.

On examination the boy is seen to be rather emaciated, but the calves of the legs are decidedly prominent. They are equally enlarged, and measure $10\frac{3}{8}$ inches in the widest part (upper part of right thigh, $11\frac{1}{2}$ inches; left thigh, 11 inches). The superficial reflexes are normal, but the knee-jerk is absent in both legs. As tested by Faradism, the solei and gastrocnemii are found to be normal, while there is no reaction in the extensors of the knee or flexors of the hip. In the other muscles of the body the reaction is normal, but feeble. This is probably due to wasting.

When he walks it is observable that there is a very marked lordosis, the shoulders being thrown far back, and the lumbar curve greatly exaggerated. The gait is waddling, the upper part of the body swaying from side to side. There is a distinct tendency to walk on the toes. When laid on the floor he rises in the characteristic fashion—first rolling on to his face, then getting on all fours, and finally climbing up the thighs.

Mentally he seems to be somewhat deficient. He has rather a vacant look, and is slow to understand and to answer questions.

The temperature has been normal since admission. The urine is pale, neutral in action, of specific gravity 1005. It contained no albumen until 5th June, when a trace of it was found.

He is being treated by massage and Faradisation, and the administration of a tonic containing 2 drs. of tinct. nucis vom. and $1\frac{1}{2}$ dr. of liq. arsenicalis in a six ounce mixture. Of this, 1 dr. is given thrice daily after food.

CASE OF SYPHILITIC ULCERATION OF TRACHEA AND BRONCHI, WITH FIBROID INDURATION AND CASEOUS (TUBERCULAR) NODULES IN BASAL PARTS OF LUNGS, ENLARGEMENT OF LYMPHATIC GLANDS, AND GUMMATA IN LIVER.

By SAMSON GEMMELL, M.D., AND R. M. BUCHANAN, M.B.

F. M'L., æt. 31, admitted to Western Infirmary 21st February, 1893, complaining of "cough, dyspnœa, and swelling of glands in the neck—all ascribed to an attack of 'rheumatic fever' (?) which she had had four years ago."

Nothing of consequence in her family history. Personally she had good health up to the date of her marriage, thirteen years ago. Her eldest child is alive and well; the second miscarried about the third or fourth month; the fourth was also a miscarriage. Further questioning, in view of these miscarriages, elicited the statement that "after her marriage she seemed to fall into bad health," but no certain signs or symptoms of specific disease could be obtained.

Five years ago she contracted a cold, and was laid up with pains in the hip, knee, and ankle joints. These pains (to which she applied the term "rheumatic") continued intermittently for a year, during which she lost strength so much that she was unable to get through her house work, and was confined to bed often for weeks at a time.

On 17th January, 1891, she was admitted to the Western Infirmary, under the care of Sir George Macleod, complaining of a "sore arm." Examination showed a hard, painful swelling about the middle third of the left fore-arm over the ulna. There was also some ulceration and necrosis of the palate, and near the sternal end of the left clavicle thick elevated crusts, the remains of an old abscess; also some cicatrices in the neck. Sir George evacuated a quantity of curdy pus and necrosed tissue from the arm, and put the patient upon iodide of potassium and potassio-tartrate of iron.

She left hospital in fourteen days, but never seemed thoroughly to regain her strength, although she no longer suffered from pains in the joints. The cervical glands were always perceptibly enlarged, though they seemed to be larger and smaller at intervals of no definite periodicity. In July, 1892, there was an aggravation of symptoms due to pain and swelling of the cervical glands, and associated with difficulty

in breathing, especially at night, and a continuous tickling cough. The cough and dyspnœa continued to increase till February, when she went to the Dispensary of the Western Infirmary, and was prescribed for by Dr. R. M. Buchanan, with substantial relief for at least some months. Latterly, however, she had got worse again. On admission she was pale and anæmic. The glands under the jaw were enlarged from ear to ear, extending also on both sides in front of the ears. The glands along the posterior margin of the sternomastoid were also enlarged, and there was a large mass on each side above the clavicles, and in the supra-sternal notch. The swelling consisted of an aggregation of larger and smaller rounded tumours, and not of a uniform mass. There were several scars on each side of the neck. In each axilla large rolling glands were detected, and a puckered cicatrix was apparent on the front of the chest in the second left interspace, close to the sternum.

There was a large area of dull percussion under the sternum, averaging about 4 inches across, and extending from the sterno-clavicular articulations down to the precordial and hepatic areas of percussion of dullness. Elsewhere over the lungs the percussion sound was good. The respiration over the upper end of the sternum was loudly tubular. Nothing else of note in the chest. Heart seemed normal. The liver was enlarged—5 inches in nipple line; $5\frac{1}{2}$ inches in the middle line; and 5 inches in the axillary line. *Urine* healthy.

The caseous lymphatic glands have a mere rind of fibrous c.mm.; hæmoglobin, 30 per cent.

Temperature on admission was 102° .

There was considerable difficulty in breathing, except in the semi-erect attitude.

Under the supposition that the mischief might be syphilitic, she was put on iodide of potassium and potassio-tartrate of iron. Improvement set in speedily, although the temperature exhibited a febrile range for the first fortnight of residence.

On 7th March it was noted:—"Patient continues to improve rapidly. The glands in the face and neck have undergone great improvement, both as to pain and size—those in front of the ears are almost imperceptible; those under the jaw and in the armpits much smaller." And again on 20th March:—"Patient's general condition continues to improve. The glands in the axillæ and under the jaw continue to diminish in size, and the dullness over the mediastinum gives a much narrower area."

On 24th March, 1893, she was dismissed very materially

improved, there being a steady decline in the size of the glands and in the area of dulness under the sternum, which at no point on dismissal exceeded $2\frac{1}{2}$ inches."

She was readmitted to Ward 22 on 28th March, 1894, complaining of "shortness of breath, cough, spit, and swellings in the neck." After leaving hospital she attended the Dispensary of the Western Infirmary, where the treatment she had had in the hospital was continued for about four months, during which time she made steady progress towards recovery. She then went to work, and as she was unable to attend the Dispensary, the treatment was discontinued. She had no complaint for three months after this, but then began to suffer from cough and "heavy" spit, and two months later from dyspnoea, very distressing, even when not exerting herself, and at night she had usually to retain the sitting posture.

On admission she looked very ill—face pallid, with some cyanosis of the lips and finger nails. Breathing was rapid, and there was orthopnoea and a good deal of rattle in the throat. The cough was very urgent, having a bronchial character. Auscultation over the lungs not satisfactory, owing to the noisy character of the breathing. Over the whole of the left lung, and over the basal region of the right, nothing but snoring and cooing râles; but in the right inter-scapular space the respiratory sounds were very hollow, and occasional liquid râles were audible.

On laryngoscopic examination the ventricular bands were slightly congested, but no ulceration detected anywhere. Abduction of the right cord was imperfect, but it moved well up to the middle line.

Expectoration was very profuse, extremely purulent and nummular, but no bacilli were found. The glands in the neck still much enlarged, and an area of submanubrial dulness.

On 16th April it is noted:—"Since admission pyrexia of a hectic type has been habitual; the evening exacerbations usually between 101° and 102° , occasionally 103° . Respiratory distress has also been very great, necessitating the use of opium in various forms. The hollow character of the respiratory sounds in the right interscapular space has increased, and is now quite amphoric. Expectoration very abundant and purulent, but although careful search has been instituted at different times, and by various expert observers, no bacilli have been detected."

"Two days ago patient was seized, during a fit of coughing, with severe and sudden pain in the right mammary region,

but this was not accompanied by any accession of great dyspnoea or other physical signs of pneumo-thorax. Within the next two days it was evident there was slight pleural effusion on the right side—a fact corroborated by exploratory puncture. The needle could be freely moved in the cavity.”

On 17th April (the day before death) the right side had become dull as high as the fourth rib, showing an increasing pleural effusion; but although above this the respiratory sounds were very decidedly hollow, no succussion or bell sound could be elicited.

She died quietly on 18th April, 1894.

Post-mortem examination—The body was fairly well nourished. Over upper part of right fore-arm, on its radial border, was an elongated depressed and adherent cicatrix. A similar depressed and adherent scar was present over the junction of third left costal cartilage with the sternum. On both sides of the neck and below the inferior maxilla there was considerable glandular enlargement, and in the former situation much scarring of the skin. On the left side of the neck was a raised greenish crust about the size of a shilling. A similar smaller one was present on the right side, somewhat nearer the clavicle.

The *pericardium* contained over two ounces of yellow fluid, on which numerous flakes of fibrin floated. The mediastinum was filled with a mass of enlarged glands, which measured 8.5 cm. in vertical, 7 cm. in transverse extent, and 5 cm. from before backwards. This mass extended more to the left than to the right of the middle line, and to it were adherent the anterior margins of both lungs and the posterior surface of the sternum.

The *heart* weighed 300 grammes, and was normal in all respects. There was slight fatty degeneration of the intima in the first part of the aorta.

The *left pleural cavity* contained a few ounces of clear fluid. The lung was non-adherent and weighed 450 grammes. The lower lobe was condensed in great part, the condition resembling grey hepatisation in appearance; the consistence, however, of the affected part was much firmer, and prominent fibrous trabeculae traversed the lobe in all directions. On compressing the lung at this part, turbid yellow fluid escaped from the smaller bronchi. Scattered throughout the lobe, mostly in the neighbourhood of the root of the lung, and mostly deeply set, were nodules the size of peas, single or clustered in small groups. These, on section, showed a well defined fibrous investment, and, centrally, a firm opaque

yellowish-white necrosed tissue. The surface of the lung corresponding to the area of condensation showed an exceedingly thin layer of fibrin.

The *right lung* was adherent over its upper two-thirds by means of a very thick layer of fibrin. In the lower third the pleuræ were separated by about thirty ounces of turbid brownish-yellow fluid, rich in fibrinous flakes. Both costal and pulmonary pleuræ were thickened, the former averaging 2 mm. The basal parts of this lung presented appearances similar to those in the left. The nodules were somewhat larger and more numerous.

The *bronchial glands* were markedly enlarged and aggregated together, forming an ovoid mass 10 cm. in length by 8 cm. in breadth. The glands were markedly pigmented, and all of those examined contained centrally tough, opaque, yellowish, caseous material, such as was seen in the glands elsewhere. The glands in the neighbourhood of the trachea on either side were likewise enlarged and caseous, and this condition could be traced upwards continuously through the cervical to the submaxillary lymphatic glands.

The *larynx and trachea* were laid open posteriorly. At a distance 2.5 cm. below the vocal cords an area of ulceration was present. This was continuous and could be traced, diminishing somewhat in intensity into both bronchi. It involved the entire surface, being, however, less pronounced posteriorly. The mucous membrane over the area in question was markedly hyperæmic, and showed numerous irregular solutions of continuity, the largest almost 1 cm. in diameter. These had somewhat sharply cut edges, and exposed a tolerably smooth floor of a paler colour. The ulceration at several points had exposed, and in part destroyed, the cartilages. (After immersion in spirit for some time appearances suggestive of cicatrisation were noted.) Above the area in question, and in the larynx, small superficial ulcerations were present. The vocal cords themselves were intact. On the right side posteriorly, 6 cm. below the vocal cord, is a distinct perforation, through which a large probe readily passes into the substance of an apparently caseous gland, which is adherent at this point. On the right side, about 3 cm. from the bifurcation, an enlarged gland measuring 6 cm. by 2.5 cm. encroaches considerably upon the lumen of the bronchus incorporating its wall.

The *right vagus* lost itself in a mass of glands at a point 11 cm. beneath the tip of the thyroid cartilage. At this point, also, its recurrent branch was met with, and traced

into a glandular mass situated at a higher level. On the left side there was less involvement of the nerve.

The *buccal cavity*, *pharynx*, and *œsophagus*, presented nothing abnormal.

The *spleen* was firmly adherent to the diaphragm, and at its upper end, between the capsule and the muscle, there is a small well-defined flattened mass, measuring 11 mm. by 4 mm., with a fibrous capsule and caseous centre. The organ weighed 225 grammes, and presented nothing remarkable.

The *kidneys* weighed 240 and 250 grammes respectively. Beyond a slight degree of hyperæmia in both, and a small simple cyst in the right, there was nothing noteworthy.

The *suprarenal bodies* and *pancreas* were normal.

In the neighbourhood of the head of the pancreas, and around the first part of the abdominal aorta, there was a mass of *enlarged glands* about the size of the two closed fists. These glands, many of them as large as walnuts, were grouped around the aorta and vena cava, and encroached somewhat on their respective calibres. Almost all were firm to the touch, and, on section, were seen to be composed mainly of a tough, opaque, yellow, caseous material, which occupied their central parts, leaving in some cases only rind of gland tissue.

The *liver* was adherent to the diaphragm and right costal arch by lengthy loose fibrous bands. It weighed 1,860 grammes. Projecting from an irregular depression on its upper surface, corresponding to an adherent area, and situated about 9 cm. to the right of the suspensory ligament, is a well-defined rounded mass of firm consistence, about 1.5 cm. in diameter. On section it showed a distinct capsule of glancing fibrous tissue, and its central part is composed of a caseous tissue, in part calcareous. From the capsule radiate for some distance into the liver substance bands of fibrous tissue. On the same surface were two much smaller masses of a similar nature; while on the under surface of this lobe were two of a rather larger size, 6 cm. from the lateral margin—the one projecting from, the other just under the surface—and three still larger at the junction of this lobe with the left anteriorly. The general surface of the organ presented a patchy opacity, with here and there slight irregularities and puckerings. The hepatic substance showed on section nutmeg markings somewhat irregularly distributed throughout. There was no definite cirrhotic conditions recognisable with the naked eye.

The *stomach* presented nothing remarkable beyond a somewhat mammillated condition of its mucous membrane.

The intestines, particularly the lower part of the ileum, exhibited marked thinning. There was no ulceration, nor evidence of amyloid disease.

The pelvic organs were normal, excepting a pronounced hæmorrhoidal condition at the lower part of the rectum.

Microscopical examination.—The wall of the *trachea* at the seat of ulceration presents the characters of a specific new-formation. It is very highly cellular throughout, with certain areas in which the cells are more densely massed. In the marginal parts of these areas a few giant cells are seen, and in some of them there is a slight degree of caseation. The normal structure of the mucous membrane is lost. The nodules in the *lungs* show a well defined caseous centre and a peripheral limiting zone of fibro-cellular tissue in which a giant cell is occasionally seen. In some of these nodules the caseous centre still retains the outlines of alveolar structure, and in some tubercle bacilli are present in enormous numbers. From broad bands of fibrous tissue, easily seen with the naked eye, numerous more delicate septa spread into the lung tissue, and the walls of adjoining lung alveoli show more or less fibrous thickening. The fibrous bands contain groups of cells here and there. A very remarkable fibrous thickening is apparent in the perivascular and peribronchial tissue. The outer limits of this new growth are very cellular. The internal and middle coats of the arteries are also thickened.

The *liver* shows no increase of fibrous tissue beyond the neighbourhood of the gummata.

Blood.—White cells not increased; red cells, $2\frac{1}{2}$ millions in tissue, in some parts cellular and indistinguishable from lymphoid tissue.

Remarks.—The diagnostic crux in the case was as to whether the disease was syphilitic or tubercular. There could be little doubt that the patient was the subject of specific disease—the previous manifestations and the benefit that accrued from antisymphilitic treatment amply demonstrated that; but the symptoms in the later stage, especially the hectic fever, the profuse and nummular expectoration, along with the physical condition in the lungs, tended, even in the absence of bacilli, in the direction of a tubercular interpretation.

The microscopic appearances presented by the trachea and lungs conform with those commonly found, and generally accepted, as indicative of syphilitic new-formation in these organs. The presence of caseous nodules is frequently

mentioned in the records of similar cases, and they have been regarded by some authors as tubercular, by others as probably syphilitic. In this case, at least, the presence of the tubercle bacillus in certain of the nodules affords substantial proof of their true nature. Without this proof it would have been impossible to say whether they were syphilitic or tubercular, if judged from minute structure alone. The position of the nodules here is not a common one for tuberculosis (primarily), and it is highly probable that they have arisen in tissue previously altered by chronic inflammatory changes, and being formed under syphilitic influence, have become quickly enveloped by a capsule of fibrous tissue.

LONGEVITY AND HEART DISEASE.

By JAMES ADAM, M.B., F.F.P. & S.G., HAMILTON.

THE Rev. John Inglis, of Hamilton, "father" of the United Presbyterian Church, who last June completed the sixtieth year of his ministry, and who died on the 4th ult., was a remarkable patient. He had reached his ninety-sixth year, and was thus the oldest man in Hamilton; yet fully fifty years ago he was rejected by an insurance company on account of heart disease. Twenty-seven years ago the heart symptoms became very pronounced. He had violent attacks of angina, accompanied by dyspnoea, pallor, and clammy sweat. He would have to stop in quite a short service owing to dyspnoea; and his family were prepared for his death at any moment. Professor Gairdner, who saw him in 1870, absolutely forbade him to take part in any of his duties or to incur any exertion or excitement whatever. Even the effort of saying grace, which nevertheless he regularly did, became too much for him, and there was always a long pause in the middle of it for breath. He continued, however, to be able to move about till a week before death, and so lately as two years ago was able to appear in church, though he took no part in the service. Fifteen years ago he had oedema of the lower extremities; this disappeared in a few weeks, and never returned. Eight years ago he had a severe carbuncle between the scapulæ, and from about that time the angina troubled him much less. During the last few years he had frequent attacks of bronchitis; two years ago he fell downstairs; in March last he had influenza; yet he recovered perfectly in

each case. The excitement connected with the addresses presented to him on the sixtieth anniversary of his ministry, to one of which he managed to reply, proved too severe a tax on him. He caught cold, and, after being confined to bed five days, died on the 4th July.

Mr. Inglis was under my care only during the last few years, and my opportunities of examining him were limited by his feebleness, so that this account is necessarily imperfect. There was little, if any, enlargement of the heart; there was a V.S. murmur in the aortic area; no oedema. The pulse was regular, and of fair quality; the veins on his limbs stood out like cords. He was of spare build. He had slight difficulty in hearing; he could just discern the hands on the clock-face by looking closely. His intellectual qualities remained perfect, except for occasional lapses of memory regarding recent events. A placid temperament and careful nursing did much to prolong life.

This case simply goes to prove that a V.S. aortic murmur, of all organic murmurs, affords the most favourable prognosis. The presence of such a murmur makes it probable that the angina was due to thrombosis in a coronary artery. If so, it is probable that collateral circulation became established in the course of time; this is now known to be possible, as the coronary arteries have been shown to anastomose freely.

CURRENT TOPICS.

UNIVERSITY OF GLASGOW—LIST OF DEGREES CONFERRED ON 26TH JULY, 1894:—

DOCTORS OF MEDICINE (M.D.)—I. *With Commendation*.—John M'Cubbin Johnston, M.A., M.B., C.M., Scotland (*Thesis*—"The Prognosis of Acute Lobar Pneumonia in the Pauper Class.")

II. *Ordinary Degree*.—James Alexander, M.B., C.M., Scotland (*Thesis*—"Abnormal Uterine Hæmorrhage, with Notes on Cases"); George Gore Gillon, M.B., C.M., Ireland (*Thesis*—"Surgical Cases in Wellington Hospital, New Zealand"); Alexander Johnston, M.B., C.M., Scotland (*Thesis*—"Fifteen Cases of Diphtheria, with Remarks"); Duncan Macartney, M.A., M.B., C.M., Scotland (*Thesis*—"Excision of the Elbow Joint, with Thirty Cases in Illustration"); Ferdinand Rees, M.B., C.M., England (*Thesis*—"Puerperal Embolism and Puerperal Thrombosis"); Oswald Rees, M.B., C.M., England (*Thesis*—"On the Treatment of so-called Cases

of 'Periostitis' in Growing Bone by Trephining"); John Sandilands, M.A., M.B., C.M., Scotland (*Thesis*—"Medical Work among the Villages of the Central Provinces, India"); John Stevenson, M.B., C.M., Scotland (*Thesis*—"Observations on Influenza, with Complications and Sequels"); James Wilson Wallace, M.B., C.M., Scotland (*Thesis*—"Fibroid Tumours of the Uterus: A Retrospect").

BACHELORS OF MEDICINE AND MASTERS IN SURGERY (M.B., C.M.)
—I. *Honours*.—Alexander MacLennan¹; William Stewart Cook, B.Sc.; James Currie Robertson, M.A., B.Sc.; James Murray Young; John Francis Robert Gairdner.

II. *High Commendation*.—James Dunlop Octavus Wilson, James Fairlie Gemmill, M.A.; Marion Gilchrist, Hugh Brown Currie, Alexander Macphail, Archibald Smith Dick.

III. *Commendation*.—John Brownlee, M.A.; John Morrison, Cuthbert Nairn, Robert Wardrop Forrest, Robert Kirkwood Currie, William Edgar Macharg, Alfred George Newell, William Salmond.

IV. *Ordinary Degrees*.—David Beatson, David Blair, M.A.; Thomas Douglas Brown, Peter Stedman Buchanan, Edward Napier Burnett, Alexander Cameron, Archibald Campbell, Henry Carmichael, Allan Aiken Clark, Alice Lilian Louisa Cumming, Donald Stewart Robinson Simpson Dickson, John Drummond, John Templeton Dunlop, George Alexander Eadie, William Cameron Faulds, Daniel Ferguson, Thomas John Lawson Forbes, Robert Forsyth, John James Fraser, Alexander Girvan, David Glen, Alfred Alexander Cumming Grant, Clarence Barrymore Harrison, Adam Kay, John Masterton, John Colin Matheson, John Munro, John Murray, Donald Maclean, Archibald Neville McLellan, James Campbell McNeillie, Hugh Stirling Brown Nisbet, James Pettigrew, Daniel Evans Powell, John Reid, Daniel Richmond, Joseph Scott, Alexander Shearer, Robert Tennent, Robert Nicol White, Alexander Grieve Young.

APOLLINARIS WATER AT THE ANTWERP EXHIBITION.—"Over a cool grotto stands an immense pyramid of bottles, of many forms and many colours, but all bearing the same legend—Apollinaris. The results of the recent investigations in Paris, and the report of the Académie de Médecine, have placed Apollinaris water at the head of all the waters examined for purity and freedom from disease germs. The strong effervescence of this water as bottled has given rise to some misapprehension. The facts are that, rising from a deep rocky source, the Apollinaris water is obtained at a great depth. In the process of bringing it to the surface its carbonic acid necessarily and unavoidably escapes, but is recaptured, and it (and no other carbonic acid) is, by means

¹ Mr. MacLennan gains the Brunton Memorial Prize of £10, awarded to the most distinguished graduate in medicine of the year.

of proper machinery, reunited with the Apollinaris water in the same proportion in which it belonged to the water in the source. The great value of natural carbonic acid, and its superiority over the artificial product, is now well recognised and appreciated, so that the Apollinaris water claims with justice to be the type of what a natural mineral effervescent table water should be. Its purity and the abundance of its natural carbonic acid gas combine, with its soft velvety taste, to make it pre-eminent. In mineral constitution Apollinaris stands between Niederselters and Emser Krähnen, and it serves medicinally in place of either; its pleasant taste and its richness in natural carbonic acid are agreeable qualities which have largely contributed to its world-wide popularity." —(*British Medical Journal*, 2nd June, 1894.)

REVIEWS.

Atlas de Laryngologie et de Rhinologie. By A. GOUGUENHEIM and J. GLOVER. Paris: G. Masson. 1894.

WITHIN the last three years valuable atlases of diseases of the pharynx and larynx by Mikulicz and Michelson, Krieg, and Schnitzler have been published. These have aimed at presenting a great variety of types of disease, and in some instances the illustration of rare cases has been the special feature of the work. In the volume now under consideration the authors have adopted a different plan. The whole field of rhinology and laryngology has been surveyed from an anatomical, clinical, pathological, and operative standpoint, unusual cases have been referred to only incidentally, no attempt has been made to deal with a large number of cases, but the commoner aspects of the diseases have received careful and ample treatment.

The first portion of the volume consists of letterpress, which, while primarily intended as a commentary on the plates, has been arranged in such a manner as to serve the purposes of a practical manual. The descriptions are concise and details have been avoided, excepting where those points are discussed on which the authors possess special knowledge and are regarded as authorities.

Of the four chapters into which the work has been divided, the first is devoted to the topographical anatomy. After

describing the methods of making preparations which best expose the various regions, each is considered in succession, and where there are differences of practical importance between the adult and child they are noted. Considerable interest is imparted to the account by the frequent introduction of hints and cautions on operative procedure. Thus, in using the forceps for the removal of post-nasal growths, the danger of causing bleeding from the spheno-palatine artery is pointed out, and, in children, of catching the posterior border of the septum owing to its horizontal position. We are reminded that a hypertrophied tonsil frequently sends an elongation downwards and backwards, which is liable not to be caught in the ring of the tonsillotome unless a special effort is made to encircle it from below. The danger of opening an abscess in certain situations in the pharynx is indicated, owing to the possibility of the internal carotid being pushed towards the buccal cavity when the lymphatic glands surrounding it are inflamed. Practical hints are also given which will be useful in the performance of tracheotomy, laryngotomy, intubation, &c.

In keeping with the times, considerable attention is bestowed on the accessory cavities of the nose. The situation of each of their orifices is carefully described, so that one can form an idea of the probable source of pus by observing its position in the nose. The opening in the infundibulum leading into the antrum is, however, not the accessory orifice, as the authors state, but the ordinary one. The relations of the antrum to the neighbouring parts are indicated, and it is shown how inflammatory affections of the orbit, sub-orbital neuralgia, dacruocystitis, &c., may arise in consequence of disease in this cavity.

The methods of diagnosing antral suppuration are discussed—viz., transillumination, catheterism, and exploratory puncture. The last, which is the most satisfactory test we have, is discountenanced by the authors, amongst other reasons, for the new and rather hypothetical one, that the small anterior ethmoidal veins which communicate abnormally with the superior longitudinal sinus may be wounded and allow of septic absorption.

The authors prefer the canine fossa as the site for an opening through which to carry out the necessary treatment, because they can then open the sinus largely, and even inspect it. Such measures may certainly be adopted with advantage if the disease resist treatment, but we think it better in the first instance to make an opening through the alveolus, and

thus provide a passage through which the patient himself can easily wash the antrum. On the other hand, if the opening be made from the canine fossa, the disadvantages are—the tendency of the soft parts to re-unite, the difficulty of keeping a drainage-tube in position, and the trouble the patient has to gain an entrance into the cavity owing to the laxity of the tissues overlying the opening.

In the second chapter, after describing the methods of making a laryngoscopic and rhinoscopic examination, a brief survey is given of the different affections of the pharynx, larynx, and nose. Very little is said regarding etiology, and debatable ground is avoided as a rule. The authors are convinced that phlegmonous tonsillitis originates in the crypts and follicles, and not in the peritonsillar tissue. It is indicated how the remains of the pharyngeal tonsil may in adult life become the seat of a catarrh, as Tornwaldt first demonstrated, or of cysts. The authors point out that when tubercular infiltration affecting the ventricular bands is more pronounced than that of the arytenoid region and epiglottis, it is more rapidly complicated by ulceration. They find from clinical observation that the very marked cases of perichondritis of the thyroid and cricoid, and the tubercular tumours, are especially primary forms of laryngeal tuberculosis. The section devoted to diseases of the nose contains nothing new.

The third chapter deals with the pathological anatomy. In describing hypertrophy of the adenoid tissue of the nasopharynx, the recent investigations of Dansac have been laid under contribution, and reference is made to the effects produced on the vegetations by syphilis and scrofula. In the section on compression of the recurrent nerves there is a valuable account of the arrangement of the lymphatic glands in relation to these nerves. After describing the method of making a *post-mortem* examination of the larynx, the pathology of the various affections of this organ are carefully discussed.

The fourth chapter will probably prove the most generally useful in the volume. It describes the various operations most commonly performed in the upper air tract. Many useful details of procedure are given, which one too often fails to find in text-books. Intra-laryngeal operations with forceps, and with the double and single curette, are fully treated. The last two instruments are employed in the surgical treatment of laryngeal phthisis, a method which has as yet found but few supporters in this country. Although seemingly too heroic, it is undoubtedly capable of effecting

great improvement in suitable cases. In describing tonsillectomy, the authors state that acute inflammation is not always a contra-indication; this assertion, by no means new, has recently received still further corroboration. The treatment of thickenings of the nasal septum by electrolysis, which has of late been so much extolled, is fully entered into. Intubation of the larynx in adults has yielded, in the authors' hands, good results only when the stenosis was traumatic or due to syphilis. Tracheotomy, laryngotomy, and laryngectomy are described. The last operation is regarded as justifiable, and in support of this we are referred to the condition of existence—amounting to a veritable martyrdom—of patients with cancer of the larynx in whom tracheotomy has been performed.

The greater part of the volume is taken up with the plates, which number 37, and contain in all 246 figures. They are uncoloured, with the exception of a few photo-micrographs. All have been executed in a highly artistic manner, and deserve great praise. Those dealing with the anatomy and pathology of the nasal cavities have been judiciously selected; they lack, however, the distinctness of Zuckerkandl's plates. In depicting the diseases of the pharynx and larynx, it would have been a great gain had the illustrations been coloured. Plate VII, Fig. 3, gives a very inadequate idea of what one should see on examining the naso-pharynx by posterior rhinoscopy; the reason of the authors' preference for palpation of this region is evident. Tuberculosis, cancer, and syphilis, as their importance warrants, are treated with special detail, and the changes produced by these diseases in the different regions of the larynx are illustrated by typical cases.

In addition to figures portraying the naked-eye aspects of the diseased tissues, a series of drawings, and another of coloured photographs, illustrate their microscopic appearances. These will prove of great value.

The figures depicting the operative procedures have been obtained from photographs taken while the instruments were held in position in antero-posterior sections of heads. The instruments are quite out of proportion in the figures on Plate XXV. The unfavourable experience of the authors in discision of the tonsils explains itself on looking at Plate XXVII, Fig. 3—tonsillectomy or the cautery appears to be called for here rather than discision. Uvulotomy, practised as shown on Plate XXXI, Fig. 1, leaves the bleeding stump directed forward, and thus greatly increases the suffering during deglutition; this may be considerably diminished by cutting obliquely, so that the wounded surface is directed backwards.

An excellent series of figures illustrates abnormal antra, and the results obtained in each by the different modes of operation.

Facing the plates are brief explanations in French and English. Fortunately we have always the French to fall back upon, otherwise the translation would occasionally be incomprehensible. This is due partly to carelessness, as when "pushed" is found instead of "pulled," "hyoid" instead of "thyroid," "downward" instead of "upward," &c., &c.; partly to want of familiarity with technical terms, *e. g.*, "vegetation nippers" (forceps for adenoids), &c. The typographical errors are numerous. The method of examining the posterior wall of the larynx, as described in the explanation of Plate V, Fig. 7, is impossible. The confusion, however, is partly due to a mistake in the original.

This work holds a unique position at present. No previous publication has dealt with the whole field of rhinology and laryngology in a similar manner. To one who has a slight acquaintance with these subjects, and desires to extend it, no more pleasant pictorial guide could be recommended. The style is easy, there is not too much detail, and every point is well illustrated. These recommendations, together with the magnificent manner in which the volume has been produced, will secure a place for it amongst the classic works on this department of medical knowledge.

The Diseases of Childhood (Medical). By H. BRYAN DONKEN, M.D. London: Charles Griffin & Co., Limited. 1893.

THIS is a reliable work by an author of wide experience in the treatment of the diseases of children. In the preface it is set forth to be a "clinical work for practitioners and senior students." But this we think it scarcely is. It is too profound, too critical, too discursive, to be of much use to a student, be he ever so senior, and we doubt even if it is a book that would be readily turned to by a young practitioner anxious to acquire a systematic working knowledge of the diseases of infancy and childhood. In saying this, we in no way disparage the book. It is a most valuable work, and by the experienced practitioner, or the specialist in pediatrics, it will be read with great pleasure and profit, even although he may occasionally disagree with the views of the author. It is, however, essentially a work for this class of readers—it is an advanced treatise, not an elementary text-book.

The classification and arrangement of the subject-matter adopted in the volume are good, and quite in accord with the peculiar phenomena of the diseases to which it is devoted. Section I deals with the disorders of the alimentary tract, and of the abdomen; II, with general diseases; III, with acute febrile diseases; IV, with diseases of the nervous system; V, with those of the respiratory system; and VI, with disorders of the heart and circulation. Under each of these general sections, individual diseases are dealt with in successive chapters.

The introduction, dealing with the special characteristics of disease in childhood and the clinical examination of children, is commonplace, and wanting in that detail which is necessary to give it any value. It might well have been left out, but the author has evidently felt that some sort of introductory remarks were necessary.

The twenty pages devoted to infantile wasting are of great importance, and the views stated with regard to the proper feeding of infants are likely to command a wide acceptance on the part of all experienced practitioners. It is impossible to go over the different articles in detail, but we would call special attention, even while we do not agree with some of the conclusions, to the chapters on Rickets, Syphilis, Scrofulosis (a pedantic, old-fashioned, and entirely misleading term, in our opinion), Tuberculosis, and Hysteria. The author shows himself to be an observer possessed of sound common sense, with no hesitation to form opinions of his own, and to be somewhat dogmatic in expressing them. His views, for example, on the efficacy of mercury in infantile syphilis are interesting, if not very convincing. Although he seems to doubt this efficacy, he has only in "comparatively few (though numerically many)" of his cases omitted the orthodox treatment. It is the passages of this kind, in which the author gives free, if somewhat discursive, expression to his matured opinions, that constitute the real value of the work, and that will be read with profit from the reflections, for or against, to which they give rise.

The Mother's Help and Guide to the Domestic Management of her Children. By P. MURRAY BRAIDWOOD, M.D., F.R.C.S.
London: The Scientific Press, Limited. 1894.

THE purpose of this work is well expressed in its title. It is intended to give the inexperienced mother some understanding of the young life that is committed to her, and to observe

with intelligence the various phenomena which are enfolded as months and years pass on. We are able to say that the purpose is fulfilled with marked success. The book is written plainly and without pedantry, and the directions given for the management of the child are on the whole sensible and discreet. We note that the author does not scorn the most minute particulars, but enters into such matters as socks and shoes, bathing, meals, &c., and always with a distinctly practical aim. We wish the work all success. We do not doubt the need of it in the ignorance of many mothers, and we can recommend it as likely to enlighten that ignorance.

Clinical Medicine: a Manual for the Use of Students and Junior Practitioners. By JUDSON S. BURY, M.D. Lond., F.R.C.P. London: Charles Griffin & Co. 1894.

It would be unwise to forecast the judgment of the coming century upon the mode of medical study and the medical literature of our own day. We think, however, it will have some reference to the elaboration of detail that prevails at present—to that persistent search after some new thing, that is always found, alas! to the increasing dismay of the hapless student. For that new thing must be known. Is it not chronicled in last year's archives or medical gazette, and will it not to-day swell the latest clinical text-book that is already big with everything but mercy for the aforesaid hapless youth?

Should the future critic's thoughts be bent on themes like these, he will assuredly select the work before us in illustration. It is a perfect encyclopædia. The author says his "only object in this manual is to deal with clinical facts," and he has dealt liberally. But we well believe that he has devoted, not alone "much thought and labour to the arrangement of symptoms in the order in which they are usually considered in practice," but to every chapter and page. It is, as a contemporary would say, "a clever catalogue of the signs of morbid states."

After a short introduction, including a whole-duty-of-man scheme for reporting cases, we have a chapter on "Symptoms for the most part subjective in character," these being classed very much according to the usual physiological systems; next, the examination of the surface of the body by the eye, touch, &c., is taken up, including the subject of temperature; then follows the mode of investigating the diseases of the various systems, including the examination of the blood and of the

urine. There are also special sections on Laryngoscopy and on Skin Eruptions by Drs. Harris and Wild respectively.

It would be easy to note faults. It might be questioned if the best way to study the nature of pain is to follow an enumeration of its possible sites and possible causes at each site, or that we are on the right lines when we run through intestinal, renal, and biliary colic in three paragraphs that are consecutive simply on account of the common term.

But all such criticism would only indicate that this is hardly the class of text-book we most admire. That will have been inferred already, and the author, or anyone else, may well retort that this is, at best, entirely a matter of opinion. But we do say this with pleasure, that the work is true throughout to the author's declaration. It is full, accurate, and up to date; and if capably followed will prove a reliable guide through the mazes of the approaching "final," and perchance through some devious paths beyond.

A Text-book of the Theory and Practice of Medicine by American Teachers. Edited by WM. PEPPER, M.D., LL.D. In Two Volumes. Illustrated. Vol. II. Philadelphia: W. B. Saunders. 1894.

WE are glad at length to have, with the publication of the second volume, the completion of this excellent work on medicine, the first volume of which we noticed in our issue for July, 1893. The delay in the appearance of the second volume has been due chiefly to the numerous professional engagements of the editor, who, however, has written no less than 325 pages of this volume. The other contributors to Volume II are Wm. H. Welch, Henry M. Lyman, Wm. Osler, James C. Wilson, Francis Delafield, James W. Holland, and Reginald H. Fitz, a list which affords an excellent guarantee for the value and accuracy of the different sections of the work.

Dr. Welch's opening article on Bacteria, Infection, and Immunity is well done, and the practical applications of the science of bacteriology have been kept well in view. Osler writes upon the Diseases of the Blood and of the Supra-renal Capsules, and the value of his articles is enhanced by a number of well executed illustrations. Fitz, who is known in this country from his elaborate researches upon the diseases of the pancreas, contributes the articles upon the Diseases of the Peritoneum, the Liver, and the Pancreas. As we remarked in speaking of the first volume, the form of a text-book has

been maintained throughout, and the articles are read without any sense of disjointedness, which the multiplicity of authorship might almost lead the reader to anticipate. The publisher is to be congratulated upon the excellent way in which the work has been got up, and we cordially recommend the book to the favourable notice of our readers.

On Diseases of the Lungs and Pleuræ, including Consumption.

By R. DOUGLAS POWELL, M.D. Lond. Fourth Edition, with Illustrations. London: H. K. Lewis. 1893.

WE have great pleasure in calling the attention of our readers to the appearance of this deservedly popular work upon the diseases of the thorax. It is unnecessary that we should criticise a work so well known at any length, more especially as on the appearance of the third edition we gave a lengthy and critical review in our issue for September, 1886. In the course of our review, we had occasion to observe that on the whole the work possessed greater merit for its clear and accurate clinical exposition than for its account of the pathology and pathological anatomy of the diseases dealt with. To some extent, we are still inclined to take this view, but on looking through the different chapters we find that the work has been well brought up to date, and that the account of phthisis pulmonalis, especially in its relations to the influence of the tubercle bacillus, has been exhaustively revised. We called attention in our previous review to Dr. Powell's division of phthisis into pneumonic phthisis and tubercular phthisis, showing that in view of the then known facts it was a division that could not be maintained. We find now that he includes what he then denominated acute pneumonic phthisis under the confluent form of acute tuberculosis of the lungs, a classification much more in accordance with recent research. We fully admit the great difficulty of obtaining a satisfactory mode of classifying the multitudinous varieties of morbid change met with in the lungs in phthisis pulmonalis, and we are by no means certain that the lengthy attempt at this in Chapter XXIII is as satisfactory as it might be, still it has the great advantage of making it clear that tuberculosis is at the root of them all. We have, in fact, pretty well returned to the original view of Laennec, who "maintained phthisis to be one disease." Occasionally we observe signs of hasty proof reading. At page 350 inverted commas begin a quotation but do not end it, and the punctua-

tion is such as to render the meaning somewhat obscure. At page 363 there is a sentence containing a phrase whose meaning we cannot follow. It is this—"And when tubercle attacks a lung rendered quiescent by previous disease." We do not know what rendering a lung "quiescent by previous disease" means.

The work in this department of medicine by members of the Glasgow school—viz., Gairdner, M'Vail, and Auld—receives due recognition.

A chapter has been added upon actinomycosis of the lung, and altogether we can again most cordially recommend the book.

Diseases of the Nose and Throat. By F. DE HAVILLAND HALL, M.D., F.R.C.P. London: H. K. Lewis. 1894.

THIS volume, which treats of the diseases of both the nose and the throat, is the latest addition to "Lewis's Practical Series," and one which has long been expected. It must be confessed that on perusal it is found to fall very far short of some others of this series, and to lack that practical character which is the redeeming feature of books of this class. The descriptions of the various affections are, in most cases, concise and to the point, but the text is loaded with references and quotations, bearing evidence to the work being of the nature of a painstaking compilation, in which extracts from the *Centralblatt für Laryngologie und Rhinologie* form no inconsiderable part of the whole. Directions for treatment are for the most part incomplete, and when surgical measures are necessary, the description of operative procedures is vague. The author apparently knows this weakness, and requests his reader to remember "that the book is written by a physician." We are glad to observe that our author does not agree with Hack and his followers, who would fain have the nose taking the place so long occupied by the uterus, and have all indefinite symptoms referred to it. The connection between certain abnormal intra-nasal conditions and hay fever, paroxysmal sneezing and asthma, is now fully recognised by the majority of intelligent practitioners of medicine, and it is well that attention be drawn, as is done here, to exaggerated statements to have them discredited. On the other hand, some strange statements are made by the author. For example, in discussing the choice of an instrument for tonsillotomy, he says—"Some surgeons, however, prefer Fahnstock's guillotine; this is a more complicated instrument

than Mackenzie's, and is liable to break, and the detached part may be swallowed." Again, he speaks of bleeding after the use of the cautery within the nose being so severe, in some rare instances, as to render anterior or even posterior plugging necessary! Here, as in many other particulars, the compiler, with limited surgical experience, is led astray by adopting the printed statements of the ignorant, without pausing to consider their possibility, much less their probability. A reading of the book gives the impression that it has been written to order, and that the order has been hastily executed.

The After-Treatment of Cases of Abdominal Section. By CHRISTOPHER MARTIN, M.B., F.R.C.S., Surgeon to the Birmingham Hospital for Women. London: Simpkin, Marshall and Co., Ltd. 1894.

THIS little work, the matter of which is the outcome of an experience of over one thousand abdominal sections, is intended as a guide to the family practitioner left in charge of patients after the performance of abdominal section by surgeons living some distance off. The various points in such cases are fully and clearly dealt with. In the earlier part of the book the preparation of the patient for operation is followed by instructions for the management, in simple cases, of the dressings, bowels, bladder, diet, &c. Next the author gives a more detailed account of certain important symptoms, such as pain, thirst, pulse, temperature, tongue, sickness, abdominal distension, and general appearance. The remainder of the work deals with the symptoms and treatment of the main complications which may arise in the course of convalescence. These include hæmorrhage, peritonitis, extra-peritoneal hæmatocele, intestinal obstruction, perforation of the gut, stitch abscesses, parotitis, and surgical rashes.

The book is well worth the attention of every practitioner, and will amply repay perusal. Its one weak point is its disregard of the elementary principles of anteseptis and asepsis. This is very evident in many points. We give one or two only:—Parotitis is to be treated by *poultices* pending incision. The surgical rashes following operation are ascribed to "articles of diet," &c., and the author has "seen the eruption attack four patients consecutively occupying the same bed in hospital," an occurrence which appears to us most probable in the practice of a surgeon holding such views on the etiology of surgical rashes. Again, stitch abscesses form a complica-

tion, in the author's opinion, more often in abdominal than in general surgery. The reason for this opinion we find in the section on the preparations for operation, where the instructions are that "on the morning of the operation the skin of the abdomen must be thoroughly cleansed with turpentine, followed by the free use of soap and hot water." Nothing more and nothing less. It seems to us that the author has his luck to thank for the fact that he ever escapes stitch abscesses. And so on, in nearly every detail of antiseptics the author seems to but half grasp the problem.

The Year-Book of Treatment for 1894. London: Cassell & Company, Limited.

THIS well known annual is now so firmly established in professional favour that we expect it is already in the hands of the majority of our readers. To those to whom it is unknown we cordially recommend it. The present issue contains very complete and discriminating notices of the therapeutic suggestions of the past year, by authorities whose competence will be generally recognised. Not the least interesting chapter in the volume is the one on "Bacteriology in relation to Treatment," by Dr. Wm. Hunter. This is a new feature in the *Year-Book*, and it is to be hoped that the practical results of bacteriological work will be sufficiently abundant and valuable to necessitate the annual repetition of this section.

Year-Book of the Scientific and Learned Societies of Great Britain and Ireland. London: Charles Griffin & Co., Limited. 1894.

THE volume before us is the eleventh annual issue of this year-book. The aim of the publishers is to give, in a concise form, an account of scientific work done in the various departments throughout the year, to record progress made, and to supply a convenient handbook of reference. As the information is contributed directly by the societies, for the most part through their secretaries, accuracy is secured. The particulars given in each case are, the title of the society, names of office-bearers, places and times of meeting, with a list of papers read during the past year, and of works (if any) published by the society. It is apparently compiled with great care, and will, like its predecessors, be a great convenience to scientific workers.

Index Pathologicus for the Registration of the Lesions recorded in Pathological Records or Case-Books of Hospitals and Asylums. By JAMES C. HOWDEN, M.D. London: J. & A. Churchill. 1894.

As the author informs us in a prefatory note, "the object of this *Index* is greatly to lessen the labour of research by affording a ready means of reference to the gross pathological lesions recorded in case-books or other records in hospitals and asylums."

The systemic mode of classification has been adopted. The various systems—nervous, respiratory, digestive, &c.—form separate main divisions, while, under each of these, the common lesions met with are tabulated. For each lesion space is provided for filling in the reference to the *post-mortem* record of the case in question, and a further subdivision is made for the sexes. The average space apportioned to each lesion is roughly 3 by 2 inches, a few of the commoner affections receiving more. The allotted space is perhaps somewhat scanty for the requirements of a large asylum or hospital; an additional copy of the *Index*, however, will readily remedy this defect.

The author, as we learn from the preface, has received the assistance and advice of Professor Joseph Coats in his arduous work, and must be congratulated on having produced a work which will prove of signal service in facilitating reference and in lightening the labours of registrar and statistician alike.

Rapports et Mémoires sur le Sauvage de l'Aveyron, l'Idiotie et la Surde-Mutité. Par ITARD, &c. Paris: Aux Bureaux du Progrès Médical. 1894.

THIS work forms the second volume of a series of works on the special education of idiots. Under the above title Dr. Bourneville publishes a series of papers containing a Life of, and appreciation of the work done by Itard; also a series of reports by Itard on his efforts to educate idiots and so-called deaf-mutes, especially the boy known as "the Savage of Aveyron." These reports contain much information and hints, which would be of service to all engaged in training such children. It is interesting to note that in these reports, published at the beginning of this century, Itard draws special attention to the possibility of amelioration, or cure of deafness in so-called deaf-mutes.

MEETINGS OF SOCIETIES.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.

SESSION 1893-94.

MEETING VII. — 9TH APRIL, 1894.

DR. JOSEPH COATS *in the Chair.*I.—PATIENT, AGED FIVE YEARS, THE SUBJECT OF SPORADIC
CRETINISM, AND IMPROVING UNDER THYROID TREATMENT.

BY DR. FINLAYSON.

Dr. Finlayson showed the above patient, and also photographs taken to illustrate her condition on admission to the Royal Hospital for Sick Children (in October), and at a more recent date. Considerable improvement had taken place, but full details of the history of the case are postponed, pending the continuance of treatment. A carriage (made by Smith, of Arbroath) was also shown; it was being found of advantage in teaching the child to walk.

Dr. Fleming remarked, as regards the coach, that it was merely a "glorified go-cart," but that, as it was a great improvement on the old form, it would no doubt be found useful.

Dr. Coats presumed that, if the child had been first seen in its present condition, the diagnosis could not have been made.

Dr. Finlayson thought not, although the child was, of course, very small for her age.

II.—PATIENT SUFFERING FROM CONGENITAL CARDIAC DISEASE.

BY DR. MIDDLETON.

Dr. Middleton showed a lad, the subject of congenital cardiac disease, who presented all the usual symptoms—marked cyanosis, always present, but aggravated during the paroxysms of dyspnoea; clubbing of fingers and toes; and cardiac signs. The cardiac apex impulse was in the fifth intercostal space, slightly outside the nipple line, and was very pronounced. The cardiac dulness was greatly enlarged,

especially towards the right, the right margin extending well over towards the right nipple, but the dulness to the right of the middle line was not so absolute as that to the left (being possibly due to dilatation of the right auricle). Over the whole of the præcordial area, and even outside of it, there was heard a ventricular systolic murmur, the seat of maximum intensity of which was at the fourth and fifth left costal cartilages, where it had a slightly harsh and very superficial quality. It was not carried to any marked degree towards the middle of the left clavicle. There was no thrill over any portion of the præcordial area. The presumption was that there was stenosis of the orifice of the pulmonary artery, with patency of the foramen ovale, or of the interventricular septum.

The patient, though 22 years of age, did not look more than 14 or 15. There was general dwarfing of the body, but the genital organs were fairly well developed, except that hair on the pubes was almost absent. The mental condition was what might be regarded as normal in one who had never been able to receive any instruction, he having had to be removed from school after less than a week's attendance, as even the slightest excitement had always done him harm.

The general defect of development was interesting, as it raised the question whether it was due to the cardiac malformation, or whether the cardiac malformation and the dwarfing arose from the same cause. It was noted that Dr. Peacock, in his classical work, made no mention of general dwarfing as a concomitant of congenital malformation of the heart, except in one of the many cases he had analysed. Dr. Middleton had seen a few cases of cardiac malformation that had survived infancy, and in none of them was there any apparent want of general development.

III.—SPECIMEN OF PYELO-NEPHRITIS, DILATED URETERS, AND CYSTITIS IN A CHILD OF FIVE YEARS.

BY DR. W. K. HUNTER AND DR. EDINGTON.

Dr. Edington submitted the above specimen, and read the following account of the case from which it had been obtained:—

“D. L., æt. 5, admitted to the Royal Hospital for Sick Children, 31st December, 1893, under the care of Dr. Fleming, by whose kind permission the specimen is now shown.

“The history is as follows:—Since the age of 18 months

the child had complained of pain on micturition. This pain was referred to the glans penis, and was present only when passing urine. He would often go for a whole day without micturating, but when this was so there was a dribbling away of the urine, so that his trousers were always wet. He wet the bed at night if he were lying on his back, but if he could be kept on his side he would go the whole night without passing urine. In summer time the symptoms were not so bad as in winter—he passed urine more frequently, but with little pain, and there was not the constant dribbling away of water as at other times.

“For three days before admission the retention was more marked, and the child passed very little urine.

“*State on admission.*—The bladder was noted to be distended, reaching nearly to the umbilicus. The prepuce was long and adherent, but not specially tight. On passing the sound the meatus was found to be narrow, having to be slit. No other urethral obstruction was found, and no stone in the bladder. Examination of urine showed it to be normal. During the first four days after admission the catheter was passed on five occasions, to relieve what seemed to be a distended bladder. On one occasion 10 oz. of urine were drawn off, but at others the bladder seemed to be emptied after 4 or 5 oz. had been withdrawn. In addition to what was withdrawn by the instrument, the child passed several times quantities of urine varying from 2 to 4 oz. The urine came slowly and often in drops. It was accompanied by pain, which was referred sometimes to root of penis and sometimes to glans. Again, the urine often dribbled away without the child making any effort.

“After the first four days in hospital the use of the catheter was discontinued owing to some balanitis having made its appearance, and later on there was a purulent discharge from the meatus.

“Things went on pretty much as above till the seventh day after admission, when the child was circumcised. There was a good deal of secretion found under the adherent foreskin. This same day there was complaint made of pain along the course of the ureters, and there was some tenderness on touching the lower part of the abdomen. Examination of the urine showed a considerable amount of albumen, and a deposit which was found microscopically to consist of pus-cells.

“On the following day the urine was smoky, and had a deposit of red blood-corpuscles, leucocytes, and large round fatty cells. The child did not seem so well, and complained

more of pain in the abdomen. He was sounded again for stone, but none was found. The bladder was then washed out with warm boracic lotion. Toward evening he was very sick and vomited. There was no rigor. The temperature, which had hitherto been normal, began to rise, and next day child died with a register of 105·4° F. (rectal).

“Pathological Note.—Kidneys enlarged, measuring each 4 inches in length, soft and fluctuant, suggesting a cystic condition. The *ureters* were much distended, resembling loops of small intestine, and being in parts at least 1 inch in diameter. They were also convoluted, being apparently kept so by the peritoneum binding them to the posterior abdominal wall. Where ureter entered the bladder, and where it joined the pelvis, there was narrowing of its lumen, but no obstruction was present anywhere. Median longitudinal section of *kidneys* showed either organ to be seat of dilatation of pelvis, with corresponding atrophy of the renal substance. The dilatation took the form of pouches, extending in some instances to near the surface of the organ. The cut surface showed in places a hæmorrhagic condition of both cortex and pyramids, with here and there purulent streaks in the line of the tubules. The capsule was found adherent in the neighbourhood of the hæmorrhagic areas, and on being stripped showed raw and somewhat raised patches of a pale colour. *Bladder* on being opened was found to have great thickening of wall, measuring at least half an inch. The rugæ of the mucous membrane were deeply injected with dark blood, suggesting extravasation. Ureteric orifices free. It contained some streaks of pus in bloody mucus.

“The ureters and kidneys were distended with a bloody mucus, microscopic examination of which showed leucocytes, red corpuscles, mucus cells, and renal epithelium in a state of fatty change. Microscopic examination of sections of the renal tissue show the appearances of suppurative nephritis.

“Conclusions.—(1) The condition seems to have been that of hypertrophy of the bladder, with dilatation of ureters and pelves of kidneys due to obstruction, this being brought about by the narrow meatus directly, and by adherent foreskin reflexly (?); (2) septic infection from either the balanitis or urethritis, leading to infection of bladder, thence to the ureters, pelves, and kidney-substance.”

Dr. Coats asked if the urethra had been examined after death, and if any seat of obstruction had been found, some obstruction, he thought, being necessary to account for the hypertrophy and dilatation seen in the specimen.

Dr. Edington said that the urethra had not been examined after death, but *Dr. Fleming* and *Dr. Dalziel* both stated that there could have been no narrowing of it, as sounds of large size had passed readily.

Dr. Dalziel, who had been acting for *Dr. Fleming* when the patient was admitted, explained further that he had slit the meatus merely to allow of his using a larger sound. He thought that the primary condition had been one of spasm of the sphincter of the bladder occasioned reflexly by the phimosis.

Dr. Fleming said that, when he first saw the patient, there was distinct evidence of cystitis. The child was very ill. He had given chloroform, passed a sound of at least full size for the child's age, and then washed out the bladder. On looking at the history of the case, there could be no great doubt as to the balanitis having been the origin of the septic infection, and as to that septic infection being the cause of death. The question remained as to what had been the origin of the hypertrophy and dilatation of the parts. He could not conceive that there had been any congenital stricture (if such a thing could exist), unless a very slight one at the meatus. He was thus unable to name the primary lesion in the case.

Mr. Maylard said that, though it was merely a matter of theory, he would suggest the possibility of a valve-like obstruction to the urethra. That would not prevent the passage inwards of an instrument, but it might prevent the outward flow until there had been sufficient accumulation of urine to overcome it. The present case reminded him of one upon which he had recently operated in the Victoria Infirmary, the patient being a young man of 20, who had complained of a "tumour" in the hypogastric region, and had a very long history of urinary trouble. On cutting down upon the bladder, he had found it enormously hypertrophied, and the ureters resembling portions of small intestine. The patient's condition being desperate, he had removed the bladder, but the case had ended fatally. There had been no marked obstruction in the urethra.

Dr. T. K. Monro had examined the specimen from *Mr. Maylard's* case, and found over-growth of the whole bladder wall, muscular and fibrous, with patches of irregular shape, but, roughly speaking, measuring an inch and a half in each direction, and elevated about half an inch above the general internal surface. These thickened patches were likewise composed of involuntary muscle and fibrous tissue. As the ureters had to pass through so much extra tissue, he thought

that the outflow from them must have been interfered with thereby, and that their orifices probably became occluded every time that there was any action of the bladder wall.

Dr. Coats said that that did not account for the hypertrophy and dilatation of the bladder.

Dr. Fleming said that during the discussion another explanation had suggested itself to him. They were all familiar with the condition known as "stuttering" or "stammering" of the bladder, which occurred sometimes even in normal subjects, and was found frequently in connection with lesions of the spinal cord. In the present case it was possible that they had an exaggerated infantile form of the same nature, amounting practically to a chorea.

Dr. Dalziel was not inclined to depart from the view he had previously expressed, and quoted his experience at the Sick Children's Dispensary in support of it. One was there quite familiar with the observation of children, suffering from phimosis, who had screaming fits lasting for half an hour at a time, the urine being passed ultimately only with great effort. There was really a disordered reflex, leading to spasm of the sphincter, while the bladder wall acted powerfully. As a result of this, the bladder was often only incompletely emptied, as the bladder wall became tired out. Accumulation of urine thus took place, and this state of matters was likely ultimately to lead to hypertrophy and dilatation, unless by circumcision one removed the cause, when the nervous mechanism again became normal, and the condition was relieved.

Dr. Coats asked if what *Dr. Dalziel* had stated was recognised as a cause of hypertrophy and dilatation of the bladder.

Dr. Dalziel said that at any rate in such cases the bladder had extra work to do, and that it was a clinical fact that distension might thus be observed.

Mr. Maylard thought *Dr. Dalziel's* explanation hardly sufficient for the present case. The urinary difficulty he (*Dr. Dalziel*) had mentioned was very frequently met with in cases of phimosis, and yet the result seen in the preparation shown by *Dr. Edington* must be very rare.

Dr. Dalziel replied that its rarity might be due to the fact that phimosis was usually operated upon in time.

Dr. Coats feared that *Dr. Dalziel's* explanation was too simple. The present case, to his mind, was a very rare one, and its rarity made one scruple against accepting at once such an easy explanation, though if observations were made upon the subject they might be found to corroborate *Dr. Dalziel's*

view. The case had, he thought, another interesting aspect in relation to the discussion which had taken place in the Society (in 1883) on "Catheter Fever." A case like the present (with dilated ureters and pelves) was in very great danger if any septic condition occurred, the channels being so open, and such a large quantity of urine having opportunity to accumulate and stagnate. He had never seen any similar specimen before in a child, although the lesions demonstrated were very common in adults with organic stricture or enlarged prostate. It was in such cases (in adults) that one got "catheter fever." "Catheter fever" in a child of 5 years was unique in his experience.

Dr. Fleming did not think it fair to speak of "catheter fever" in the present instance, because he was sure that the instruments used by *Dr. Dalziel* and himself had been perfectly aseptic. There had rather been a propagation of septic infection from the balanitis.

Dr. Coats had not referred to the instruments used, but merely to the general question of extension of septic infection to the bladder and kidneys.

Dr. Fleming added that this was just another proof of the unsuitableness of the expression "catheter fever."

Dr. Coats conveyed the thanks of the meeting to *Dr. Edington* for the communication, and for the interesting manner in which the specimen had been presented.

IV.—SPECIMENS OF FEMURS AND PATELLAS IN CHRONIC RHEUMATIC ARTHRITIS.

BY DR. JOSEPH COATS.

The specimens are the lower ends of both femurs and the corresponding patellas from a man aged 50. No history of the case in this aspect was obtained. The man was affected with a sarcoma of the head of the tibia, and died after an operation for the removal of the tumour.

The preparation shows in a striking manner the usual changes in the cartilage and bone, incident to chronic rheumatic arthritis. So far as the cartilage is concerned, the visible changes are almost limited to the articular surfaces of the patellas and to the corresponding surfaces of the femurs. On the left side the cartilaginous surface of the patella shows an elongated gap in its middle parts, which is occupied by a burnished surface of bone. The cartilage around this surface has a characteristic furry appearance, as if the cartilaginous

matrix were softened and the cartilage had become fibrous. The corresponding surface of the patella presents an even larger loss of cartilage which is replaced by burnished bone. The cartilage around is thinned and softened, and in some places presents elongated fissures. The right patella shows a considerably larger loss of cartilage, extending to more than half the articular surface. The remaining cartilage is fibrous and almost villous in places. The corresponding surface of the femur also presents an extensive loss of cartilage. This surface also has the striking appearance of burnished ivory which the other exposed bony surfaces present.

The new-formation of bone at the edges of the articular surfaces is also seen in this preparation, more particularly in the femurs. Almost all round the edges of the condyles, except at their posterior parts, the surface is prolonged outwards, and as the new-formed bone is of limited thickness, the appearance of a projecting lip is frequently given. This is particularly seen on the outer surface of the right femur, where the surface of the new-formed bone is continuous with the exposed bone of the articular surface, and, like it, is burnished. On the inner edge of this bone there is a more irregular projection of new bone. The production of new bone is not so great in the left femur, but here also there is the lipped appearance, especially along the edges of the patellar surface.

The specimens are preserved in the Museum of the Western Infirmary.

Dr. Rutherford thought 50 years of age late for sarcoma and early for chronic rheumatic arthritis. The occurrence of these diseases in the same individual must be a rare coincidence.

V.—SPECIMEN OF ATRESIA RECTI, WITH DILATATION OF INTESTINE.

BY DR. JOSEPH COATS.

This specimen shows in section almost the whole of the facts. The rectum, which is widely dilated for a distance of 8 cm., ends below in an absolute *cul-de-sac*. The wall of the intestine is carried smoothly over the lower extremity, and there is no indication of prolongation downwards even in the form of dimpling. The anal part of the rectum also ends in a *cul-de-sac*. The anus is completely formed, and the canal is continued upwards for a distance of 1.5 cm. It ends in a

rounded vault which is in contact with the lower extremity of the rectal *cul-de-sac*. The bladder is also shown in longitudinal section, but neither it nor the urethra presents anything remarkable.

The parts were removed from a male child who died five days after birth. Left inguinal colotomy was performed about two days after birth, and meconium escaped from the intestine. There was in this case extreme jaundice, and the nurse who attended at the birth stated that she noticed jaundice when the child was born.

The preparation is preserved in the Museum of the Western Infirmary.

Dr. Fleming, who had operated upon the patient at the Royal Hospital for Sick Children, said that, having found that the house-surgeon had made a very complete and judicious attempt to reach the bowel from the usual situation of the anus, he had performed left inguinal colotomy. This had been the first case in which he had tried a manoeuvre, of which he had taken advantage in subsequent cases. It consisted in ligaturing into the bowel, as one fixed a cannula in an artery, a glass tube which had been notched by the heat of a spirit lamp. Through this tube one allowed free discharge of fæces, and this discharge he had indeed assisted by the injection and subsequent withdrawal of water; and all this might be done without any danger to the peritoneal cavity. In a day or two the piece of bowel sloughed out with the tube, leaving a round aperture, but by that time all communication with the peritoneal cavity had been cut off by the adhesions formed. He had since tried a similar proceeding in the adult, and in his last case, not knowing which was upper and which lower end of the gut, he had used two such tubes, passing one up and the other down. By this method one did not require to wait for twenty-four hours, as was usually recommended, but might open the bowel immediately without danger to the peritoneum.

VI.—SPECIMEN OF A CUTANEOUS HORN REMOVED FROM THE
CHEEK OF AN OLD WOMAN.

By DR. A. W. RUSSELL.

Dr. A. W. Russell showed a specimen of a cutaneous horn removed from the right cheek of a woman 74 years of age. It was first observed about a year ago, as a small wart-like growth, hard and horny to the touch. Five minims of a

5 per cent solution of cocaine ($\frac{1}{4}$ gr.) having been injected under its base, an incision was made in healthy skin, on opposite sides of the horn, close to its base. The edges of the wound were afterwards brought together with two sutures of silkworm gut, and a small pad of sublimate gauze was fixed on with collodion. It was not disturbed for five days, after which time the dressing was detached, and the wound was found to have quite healed up.

Reference was then made to similar structures, both physiological and pathological, in the lower animals—*e.g.*, birds, mice, sheep, rhinoceros, &c.

A photograph of the patient was shown, as well as photographic copies of illustrations of the most remarkable cases already published, and of the structures in the lower animals above referred to.

A careful pen and ink drawing of the specimen, made by Mr. Alex. Macphail, was also shown.

Dr. L. R. Sutherland had kindly prepared the following detailed description of the growth and account of its microscopic appearances:—

“The specimen submitted weighs 800 milligrammes. It is irregularly cylindrical or pyramidal in form, measuring in greatest length 17 mm. Its maximum basal circumference is 2.5 cm., its apical 18 mm.

“Its somewhat soft irregular base is surrounded by a narrow zone of skin bearing numerous very fine colourless hairs on its surface. Underlying this is a small amount of subcutaneous adipose tissue.

“The apex is blunted and irregular in form, presenting a ‘weather-beaten’ appearance.

“The surface of the growth shows distinct longitudinal and equally distinct transverse striation, with some tendency to the formation of fissures.

“Its colour is a dark greenish-brown, and it has the consistence of a corn, being less hard than nail. Towards the apex its tissue is somewhat more friable.

“It ignites readily, emitting a disagreeable odour, and leaving a charred residue. Caustic potash causes rapid softening of its structures, and allows of the ready separation of its component elements.

“On section, which is readily effected with a sharp knife, the soft tissue forming the base is seen to be continuous into the mass for a distance of 4 mm., where it ends in a well-defined rounded margin. Continuous with this is a firm, horn-like tissue, giving a distinctly laminated appearance,

layers of marked translucency alternating with others which are slightly opaque.

"The brown coloration of the surface is seen to be confined to the peripheral portions of the section, and to form a layer not more than 1 mm. in depth.

"*Microscopically examined*, the mass consists essentially of epithelium. Towards the base the outlines of the cells and their nuclei are readily made out. Distally the cells tend to become more and more compressed and to lose their individual outline. Their nuclei may still, however, be made out, even in the apical portion of the growth. Here a tendency towards transverse cleavage is noted. Throughout this tissue occur elongated spaces, of irregular form, filled with loose, irregular epithelial masses. Most of these spaces contain one or more delicate hairs devoid of pigment. Corresponding appearances obtain in transverse sections.

"The *origin* of the growth from a ruptured sebaceous cyst can here be excluded. The structure is evidently purely that of an epithelial outgrowth, and the epithelium is derived apparently mainly from the rete Malpighii. Another source is the epithelium of the hair follicles. The part played by the epithelium of the sebaceous glands and ducts would appear to be a secondary one."

Dr. Coats spoke of the interest of the specimen, and thanked *Dr. Russell*, on behalf of the meeting, for bringing it forward, and for the excellent demonstration of photographs made by him from the drawings of other cases.

Mr. Maylard mentioned having read in a New York journal of a horn growing from the forehead, measuring 14 inches in circumference, and having three branches. The present specimen did not seem to have originated in a sebaceous cyst. He would ask if there had been any marked papillæ at its base.

Dr. Sutherland answered that there had not.

Dr. Coats said that the pathology of *Dr. Russell's* specimen seemed to be that there had been an accumulation of horny epidermis, compacted together, with channels running through it containing what he presumed were the natural soft hairs of the part, such soft hairs existing normally even on the cheeks of women.

Mr. Maylard supposed it was practically a nail.

Dr. Sutherland said it resembled very closely some forms of ichthyosis.

MEETING VIII.—14TH MAY, 1894.

The Vice-President, DR. KNOX, in the Chair.

I.—SPECIMEN OF OVARIAN OR PAROVARIAN CYST.

By DR. BEATSON.

Dr. Beatson showed this tumour as a fresh specimen, it having been removed on the 12th. It was interesting on account of the length of time for which it had been known to be present in the abdomen. The patient was now aged 42, and the tumour had been first noticed when she was 16 years of age. At that time she had seen Sir James Simpson, who had advised operative measures, but nothing further had been done until 1876, when the cyst had been tapped by Dr. Keith, after which it had quieted down. Dr. Keith had kept her for some time under observation in a Nursing Home in Edinburgh, with the idea of operating if necessary, but had eventually sent her home. Last winter, after a severe attack of influenza, abdominal pain had returned and the tumour had increased in size, and ultimately it had become so much larger that it was evident that some operative interference was desirable.

Before removal the tumour had been felt to be very hard, and this had suggested its being a dermoid cyst. The hardness was now shown to be due to calcareous plates which had formed in its wall. The fluid contents had proved to be of a purulent nature. From the layers of ligament which had been found upon it, it appeared likely that it was parovarian. Against the theory of its being dermoid, was the fact that at the tapping in 1876, the fluid removed had been clear. Dr. Beatson was inclined to view it as a case of parovarian cyst which had suppurated after influenza.

II.—PATIENT WHO HAD RECOVERED FROM MYXŒDEMA UNDER THYROID TREATMENT; REFERENCE TO SIX OTHER CASES SIMILARLY TREATED SUCCESSFULLY.

By DR. NAPIER.

The account of Dr. Napier's cases is embodied in the original article by him, published at p. 81.

Dr. W. T. Gairdner asked if the increase of urea mentioned had been coincident with the improvement.

Dr. Napier replied that it had been noted during the improvement, during the decrease in bulk.

Dr. Gairdner asked if it had continued for any length of time.

Dr. Napier explained that the history of the cases, with regard to that detail, only covered the period over which they were getting the remedy.

Dr. Gairdner asked if the remedy had been regarded as the cause of the increase.

Dr. Napier replied that the giving of the remedy and the observation of the increase of urea had co-existed in every case.

Dr. McCall Anderson said that there was no fact more thoroughly established in the range of therapeutics than the influence of thyroid extract in myxœdema, and *Dr. Napier's* cases had confirmed him in the impression that if there was a case of myxœdema and thyroid was given, a cure was sure to result. But, while he agreed with *Dr. Napier* as to the influence of treatment by thyroid, he was not convinced as regards the permanency of cure, and he did not think that the condition of the patient just shown could be considered as proof of such a contention, because it was not yet many months since she had stopped taking thyroid regularly, and even in the interval she had had occasional doses.

One point upon which stress should be laid was the necessity for care, at first at anyrate, as regards dosage. Some patients were very susceptible to thyroid, and harmful results followed giving too much of the remedy. In the case shown, *Dr. Napier* had used the hypodermic method at first, but, though he was a believer in hypodermic medication generally, *Dr. McCall Anderson* always gave thyroid by the mouth. He understood that, in his later practice, *Dr. Napier* had not used the hypodermic.

Lately the interest of thyroid treatment had not centred so much on myxœdema as on the treatment of other diseases, and on these it did appear to have an influence, although the results obtained could not yet be regarded as conclusive. For example, in many cases of various diseases copious desquamation of the skin followed the use of the remedy. This fact was being taken advantage of in the treatment of diseases of the skin in which there was a desquamative element. He had tried thyroid in a case of psoriasis,¹ and he was using it in a number of skin cases, *Dr. Ernest Thomson* taking notes of them, which would be published in due course.

¹ Cf. *Glasgow Medical Journal*, 1894, vol. i, p. 421.

Dr. Finlayson thanked *Dr. Napier* for his communication, and said that his own experience was quite in accord with what had been there stated.

Dr. Middleton asked *Dr. Napier* if he had had any experience of pulmonary disease coming on in myxœdema. He had recently¹ shown a case at the Medico-Chirurgical Society which illustrated many of the features which had been mentioned—in particular, the desquamation spoken of by *Dr. McCall Anderson*. That patient had again been under treatment, and had developed hæmoptysis, which was persisting, and associated with it there was a gradual accumulation of signs indicative of disease in the apex of one lung. The symptoms of myxœdema had again disappeared. The form of thyroid material used had been that supplied by *Burroughs, Wellcome & Co.*, in tabloid form.

Dr. Napier, in reply, said that he had seen no lung complication, or, indeed, any very serious complication at all. He had adopted the plan of working up from small doses, and ultimately could get the patients to take three lobes a week without harm resulting. He agreed with *Dr. McCall Anderson* in thinking the hypodermic method unsuitable. That method was less effectual than administration by the mouth, and there was always the risk of contamination of the syringe, &c. He thought that in *Dr. Middleton's* case the lung disease must have been an accidental coincidence, and not associated either with the myxœdema or with the treatment. He was quite familiar with the occurrence of rise of temperature and of desquamation. In one case the skin of the hand and foot came away almost in one piece, while there was also desquamation all over the body. The action on the sudoriparous glands was also very striking, and after a single dose a patient might perspire who had not done so for years. As regards skin cases, he had a case of lupus erythematosus now under thyroid treatment, in which great improvement was taking place, but he could not be sure whether this would be permanent or not.

III.—SPECIMEN OF A VERMIFORM APPENDIX WHICH HAD FORMED A COMMUNICATION WITH THE BLADDER, AND BEEN SUCCESSFULLY REMOVED BY OPERATION.

BY *DR. HECTOR C. CAMERON.*

Dr. Cameron, in showing this specimen, made reference to

¹ Cf. *Glasgow Medical Journal*, 1894, vol. i, p. 444.

the clinical features of the case, which are detailed in the following report from his ward journal in the Western Infirmary:—

“T. S., æt. 30, constable, was admitted 9th March, 1894, complaining of attacks of pain in the abdomen, accompanied by vomiting and ‘stoppage of the bowels.’

“Patient has suffered in this way for about three years. In 1888, whilst struggling with a prisoner, he received several kicks in the right iliac region. At the time this caused him little or no annoyance, except that at times he had vague pains to which he paid no attention. About eighteen months after this he was suddenly seized with violent pain in the abdomen whilst walking along the street. It was so severe that he went into a friend’s house and sat down. After a little time the pain abated somewhat, but attacks recurred at intervals of from one to two months, and lasted as a rule about three days. Before an attack came on patient had complete ‘stoppage of the bowels;’ he then suffered from slight pains in the right iliac region, which gradually became worse, and spread over the lower part of the abdomen. It was a ‘twisting’ pain and paroxysmal. Soon after the pain there came vomiting, first of the contents of the stomach and afterwards of bile-stained fluid.

“For about a year before October, 1893, patient was entirely free from attacks of pain. Then they came on again with greater frequency than before, but were neither so severe nor so prolonged. About this time, also, ‘wind’ began to come by the urethra, and shortly afterwards blood and pus. From patient’s account, it would seem that peristalsis was occasionally visible in the lower part of the abdomen.

“The urine on examination is found to contain considerable quantities of pus, but no fæcal matter can be found in it. He suffers from symptoms like those of cystitis, having to pass urine every half-hour. There is a degree of increased resistance in the right iliac fossa, as compared with the opposite side.

“*20th April.*—Two days ago Dr. Cameron opened the abdomen on the right side over the site of the cæcum. The parts were found greatly matted together. The appendix was attached by what ought to be its free end to the bladder. It was ligatured and cut out, only the two ends being left at their points of attachment. These were disinfected with undiluted carbolic acid. There was also a small abscess cavity. The wound was stitched up in three layers, and a drainage-tube introduced.

"Yesterday the wound was dressed and the drainage-tube removed. Temperatures on two or three occasions were a few points above 100°, but for the most part have been normal. Patient has had a good deal of sickness since operation, and this has not yet passed off completely.

"23rd April.—Patient still continues to pass flatus *per urethram*. To-day the wound was dressed; the dressings were found to have a distinctly fæcal odour. Some fæcal-smelling pus was pressed out at the lower angle of the wound, and a drainage-tube was introduced, and directions given to dress twice daily with moist boracic dressing.

"10th May.—Two days after the last note was made the fæcal odour disappeared from the discharge, which also diminished greatly in amount, so that a few days later the dressing was allowed to remain on for twenty-four hours, and patient was taken from the side room back to the ward.

"For a day or two after the operation patient had diarrhoea to the extent of three or four motions daily, but since then the bowels have moved once daily without medicine. For some time after the operation the frequency and pain of micturition continued, and pus was present in considerable quantity in the urine, while flatus continued to pass *per urethram*; but for the last fortnight the urine has contained only a trace of pus, and has been passed without pain and unaccompanied by flatus. Patient is now able to retain his urine from one and a half to two hours at a time.

"The wound is now soundly healed except at the lower angle where the drainage-tube was introduced, which is marked by a small circular patch of granulation tissue.

"31st May.—During the last few days a small abscess gradually formed in the middle of the scar, which Dr. Cameron opened yesterday, getting out of the pus the knot of a catgut ligature. The granulation tissue at the lower end of the wound still pouts, and secretes a small quantity of discharge. Some days ago Dr. Cameron passed a probe into this part of the wound to a distance of about 1½ inch.

"30th June.—Patient has gone on steadily improving, and, although he has not yet been allowed to be out of bed, is now very well. The wound, although not entirely cicatrised, is superficial."]

Dr. Cameron remarked on the great variability of operations upon the vermiform appendix as regards difficulty. His first case had been one for relapsing appendicitis, and had been in every way a favourable one. The distended appendix could

be felt through the abdominal wall like the thumb of a glove, and when the abdomen had been opened, it had been found at once just under the parietal peritoneum. Removal had been easy, the whole operation lasting certainly not more than half an hour. His second case had been one of relapsing inflammatory disturbance in the abdomen, with vomiting and a good deal of matting in the region of the cæcum. The patient had had tabes in infancy. On operating, much matting had been found, as well as some enlarged glands in the right iliac region, but the appendix could not be discovered. A drainage tube had been introduced, and had been kept in for a week, as, on account of there having been one or two rigors, Dr. Cameron had feared that suppuration might be going on, and wished to leave a vent for it. A good result had been obtained, and there had been no return of the inflammatory attacks so far as he has heard. In a third case the patient had been very ill and had had rigors. The cæcum had been the centre of inflammatory action, and many adhesions had formed. Dr. Cameron had begun to detach these and to separate the cæcum at its outer aspect, when an abscess cavity with stinking pus had been opened into. He had then stitched the peritoneum over the cæcum to the inner edge of the cut parietal peritoneum, following a suggestion of Dr. Rutherford, who was assisting him, that by that means he might block off the most of the general peritoneal cavity. On the evening of the day of the operation, the patient had shivered violently, and for the weeks during which life was prolonged the shiverings had been repeated at intervals. Death was from multiple abscess of the liver with well-marked pyæmic symptoms. The enlargement of the liver had been considerable and had been detected during life.

Dr. Cameron's fourth case was that from which the specimen had just been shown.

Dr. Chas. Workman said that recently he had, in the *post-mortem* room, been observing the anatomical position of the vermiform appendix in cases not known to be affected with disease of any kind in that region, and it seemed that the appendix was physiologically an unimportant organ, and only became important when it became diseased. He had found it to be extremely variable in its position, sometimes lying down in the pelvis, sometimes above the umbilicus. It was often very loosely attached, and often it seemed that it must vary its position with varying degrees of distension of the cæcum. The cæcum itself was often variable in position and free to move, and the appendix was even more freely

movable. It also varied considerably in its length. When disease took place in that neighbourhood, the vermiform appendix seemed to get very easily bound down, and its position then also varied very greatly; *e.g.*, in one case it was clearly attached to the posterior wall of the abdomen lying across the muscles, with its tip leading into the pelvis in somewhat the same position as in Dr. Cameron's case, while in another he had seen the appendix turned upwards behind the cæcum and bound down there.

Dr. Gairdner had been much instructed by Dr. Cameron's case, as he was sure every one had been. He thought that Dr. Workman's remark that the appendix was physiologically unimportant might, in plain English, be held to mean that it was useless. Dr. Cameron had shown that it could be cut away without harm resulting. He would suggest the question whether it would not be better always to have it cut away, as the Jews cut away the prepuce, to prevent after consequences.

Dr. Knox thought that if Dr. Workman could give them any information as to the probable situation of the appendix, it would be very useful to surgeons, because it was often very difficult to find it in operating.

Dr. Cameron referred to the paper on the anatomy of the vermiform appendix by Professor Struthers, which had appeared in the *Edinburgh Medical Journal* for October, 1893. The difficulty of finding the appendix during operation was increased by the manner in which it became matted together with the cæcum and small intestine.

IV.—SPECIMEN OF TUBERCULOSIS OF THE TRACHEA AND LUNGS, WITH ENLARGEMENT OF GLANDS (PROBABLY SYPHILITIC).

BY DR. SAMSON GEMMELL AND DR. R. M. BUCHANAN.

The report of this case, with description of the specimens, will be found as an original article at p. 107.

V.—SPECIMEN OF MALIGNANT STRICTURE OF TRANSVERSE COLON (MIDDLE PORTION).

BY DR. DONALD FRASER.

A. H., æt. 33, on 14th December, 1893, complained of sickness, colicky pains in bowels, and diarrhoea. He was soon better after this, though much annoyed with borborygmi, but about three weeks later had sickness, vomiting, colic, and

diarrhoea again. Thereafter he had one attack after another of the same symptoms, with intervals of comparative comfort, though all along annoyed by borborygmi, and losing flesh rapidly. The vomited matter was never fæculent; stools not abnormal; no abdominal pain on pressure between the spasms of colic, and no sense of tumour. At first borborygmi were unaccompanied by pain, but later on became painful, and ultimately agonising. There was always a tendency to constipation. There was no pyrexia, and the urine was free from albumen. He had been attended by a doctor four years ago, for dyspepsia and constipation.

On 20th April, 1894, symptoms of acute obstruction set in, with sickness, vomiting, great pain, and collapse, and he was removed to Paisley Infirmary in case operation might be deemed advisable. The vomiting was only once fæculent. Tympanitic distention was present, and most marked along the course of the large intestine, peristaltic movements being visible in the right iliac region. There was absolute constipation, but, after persistent use of enemata, at the end of a week he had a formed clay-coloured motion, about the thickness of the little finger and with a well-marked groove on the one side. Latterly symptoms of peritonitis set in, and he died of collapse on 6th May.

On *post-mortem* examination, a considerable quantity of brownish, turbid fluid was found in the peritoneal cavity. There was great distention of the intestines, especially the ascending colon. About the middle of the transverse colon was found a tumour in the bowel-wall, encircling it, and contracting the lumen so as only to admit the tip of the little finger. There were some adhesions round the tumour, and some enlargement of the mesenteric glands. There was no perforation. Behind the stricture the bowel was much dilated and hypertrophied.

The interest of the case is twofold—the somewhat rare situation of the tumour and the question of operation. Owing to the improvement after removal to the Infirmary, and the obscurity of the symptoms, the idea of surgical interference was, after consultation, departed from.

Dr. Joseph Coats had had the opportunity of examining this specimen, and had found it to be one of those cases of cancer in which almost all the cancerous tissue had been removed by ulceration. There had been burrowing, but with the microscope he had been able to see that it was a cylinder-celled epithelioma with some colloid degeneration.

Dr. McCall Anderson said that the case recalled one he had

seen some years ago, in which there had been obstruction for a fortnight and then profuse diarrhoea, followed by temporary recovery. He had asked Professor George Buchanan to see the patient in consultation, as he thought the question of operation might have been raised. Both Dr. Buchanan and he had regarded the case as one of cancer, but the patient, on returning to his home in Edinburgh, had been seen by Dr. Warburton Begbie and by his family medical attendant, both of whom took a more hopeful view. The case had proved fatal, and Dr. Begbie had written to say that on *post-mortem* examination they had found cancerous disease of the bowel.

Dr. Newman thought that the peculiarity of *Dr. Fraser's* case was the situation of the malignant disease in the transverse colon. He could remember only one other case of carcinoma of the transverse colon, and he had seen it as a pathologist. In it the growth had presented very much the same appearances as *Dr. Fraser's* specimen. He had been struck with what *Dr. Coats* had said about the microscopic appearances not showing as complete a cancerous structure as might have been expected. A similar doubt was occasioned sometimes by ulceration in cancer of the pylorus, as in a case which had come under his own observation. He would ask why it was that, in the situation occupied by the growth in *Dr. Fraser's* case, the destruction of the cancerous portion should have been so complete. In other parts of the colon they usually had a proliferative cancerous growth.

Dr. Knox agreed with *Dr. Newman* as to the rarity of situation. He did not remember having seen a cancerous stricture there before, but he had shown to the Society some years ago a simple stricture of the transverse colon. As in his own case, it was a matter for regret that right lumbar colotomy had not been performed in the present case.

VI.—CARD SPECIMENS.

A. BY DR. RUTHERFURD.

Parovarian Cyst; strangulated by rotation on its pedicle.
—Symptoms: Collapse, pain and sickness of sudden onset, in bed, of ten hours' standing.

Tumour of right side, rotated through a complete turn and a half from above forwards and downwards. Cyst contained 23 oz. clear fluid; wall black with blood. Fallopian

tube seat of a large hæmatoma, forming sausage-like swelling around but not within tube. Some bloody fluid free in the peritoneal cavity.

B. BY DR. KNOX.

A Large Dermoid of the Ovary, showing bones, teeth, and hair. Small cysts containing pultaceous matter and hair.

Tumour weighed 10 lb., and had been noticed by patient for the first time only about two years ago.

C. BY MR. CLARK.

1. *Two Vesical Calculi removed by Suprapubic Operation*—

(i) Removed on 7th June, 1893; composed of oxalate and phosphate of lime; weight, 2½ oz.

W. N., æt. 43, a hammerman, was admitted into the Royal Infirmary on 31st May, 1893, complaining of pain along the urethra, frequency of micturition, and the presence of blood in the urine. He frequently lost control of the bladder, the urine coming away suddenly. He finds the greatest ease when lying on his back. He consulted several practitioners, but they do not seem to have recognised the presence of the calculus. Finding the stone too large for crushing with the lithotrite, Dr. Clark removed it by a suprapubic cystotomy. Patient made an excellent recovery.

(ii) Removed on 9th March, 1894; composition chiefly phosphatic; weight, 590 grs.

M. M., æt. 36, a platelayer, was admitted into the Royal Infirmary complaining of pain on micturition, of about nine months' duration, and occasional stoppages during the last four weeks. He was frequently called upon to empty his bladder, and suffered from a shooting pain along the urethra to the point of penis. He had not noticed any blood. On admission, the sound was passed, and a stone detected. On 9th March, 1894, Dr. Clark performed suprapubic lithotomy, having found the calculus too large to be thoroughly dealt with by the lithotrite.

2. *Biliary Calculi removed by Cholecystotomy*.—Removed on 16th March, 1894; weight, 36 grs.

Mrs. W., æt. 25, housewife, was admitted into the Royal Infirmary complaining of pain and jaundice, of fully six months' duration, the pains being colicky in character and situated over the hepatic area. There was some increase in the area of hepatic dulness. Upon cutting down in the region

of the gall-bladder, the liver presented in the wound; on search being made underneath for the gall-bladder, it was found not enlarged. A large calculus was found at the junction of the ducts, with numerous smaller ones in the gall-bladder. The gall-bladder was stitched to the lips of the wound. The patient made a good recovery, but fistula remained. Operated on this morning.

3. *Papilloma of Tongue*.—Removed on 29th April, 1894.

T. C., æt. 56, a shoemaker, was admitted into the Royal Infirmary on the 28th April, 1894, complaining of a growth on the tongue. He has always enjoyed good health. The tumour commenced about twelve years ago as a small warty growth, which has gradually increased in size, involving the anterior two-thirds of the left side of the tongue. Up to six weeks ago it gave rise to no pain or trouble of any kind, except that he found talking somewhat difficult. He has been a constant smoker, using a short clay pipe. The tumour has the general appearances of a papillomatous growth; the edges, however, show a tendency to ulceration. The glands in the neighbourhood were quite free.

D. BY DR. EDINGTON.

Two Specimens of Malformation of Ribs—

(i) The specimen represents part of the fourth rib (left) and its cartilage. The extremity of bone rises upwards, so that the rib above was nearly in contact. From this upper projection a narrow piece of cartilage descends to meet the proper cartilage, which it joins, the two articulating together with the sternum. The narrow interval was filled in with muscle and fibrous tissue. The specimen was dried in the air before being mounted.

(ii) The specimen shows abnormality of the third rib (left). The rib in its anterior half is broader (vertically) than posteriorly. About a quarter of an inch out from the costochondral articulation there is a bony projection from the upper margin, and from this a separate cartilage proceeds to the sternum, causing the third cartilage proper to be displaced downwards. The narrowest piece of the cartilage is close to where it springs from the rib. The interval contained intercostal muscle and fibrous tissue.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

MEDICINE.

By T. K. MONRO, M.A., M.B.

Bradycardia of Convalescence. (By Dehio, quoted in *Deutsche Med.-Zeit.*, 17th May, 1894.)—Slowing of the heart's action may be produced either by a lesion of the motor structures in the organ itself, or by irritation of the inhibitory fibres of the vagus, or relative paresis of the augmentor fibres of the sympathetic. We possess in atropin, which paralyses the nerve-endings of the vagus in the heart, a means by which we can determine whether the slowing is cardiac or extracardiac. If, after the injection of atropin, the pulse beat is considerably accelerated, the fundamental condition is extracardiac.

The slow heart of convalescence is generally associated with a subnormal temperature, and does not continue, as a rule, beyond a few days or a week. It is sometimes interrupted for a time by a normal, or even hypernormal pulse rate, the interruption being either transient, or lasting for hours or even for days. The pulse is generally small and easily compressible, often dicrotic and sometimes irregular. Disturbances in the general condition and organic changes in the heart are wanting in the slighter cases. In other cases there may be observed all the symptoms of an acute, though not necessarily very severe, cardiac debility—irregular action of the heart, increase of the cardiac dulness, with systolic murmurs over the left heart. In such cases, the bradycardia is not an independent functional anomaly, but only one of the phenomena of the debilitated state of the heart. Atropin accelerates the pulse to a much smaller degree in bradycardia of convalescence than it does in good health. This refractoriness of the heart towards atropin is proof that the condition under consideration is not due to irritation of the vagus, but to something in the heart itself; and it is to be taken as an expression of debility of the organ. This is not due to demonstrable changes, such as myocarditis, which have been described as occurring after infectious diseases, but rather to the action of ptomaines upon the heart.

Stenosis of the Coronary Artery of the Heart with a Pulse of Eight Beats in the Minute.—The patient was a seaman, æt. 59, in whom cardiac symptoms showed themselves after an attack of muscular and articular rheumatism some years before. He had palpitation and a sense of oppression, with pains in the region of the head, the pains passing into the left arm, and sometimes ending with a faint. During the last month he had very often fainted—as often, it might be, as every five minutes. The pulse varied from 26 down to 8 beats per minute; it was strong and on the whole regular. There was a systolic murmur at the apex. The patient died in a faint. The conditions found after death were:—pericarditis, hypertrophy of the left ventricle, atheroma of the aorta, calcification of the mitral segments, and atheroma and stenosis of the coronary artery.—(Freng, quoted in *Deutsche Med.-Zeit.*, 17th May, 1894.)

Uræmic Hemiplegia.—Reynold W. Wilcox has a paper of some length on this subject in the *American Journal of the Medical Sciences* for May, 1894. His conclusions are:—(1) Uræmic hemiplegia is a distinct form, and should be recognised as such; (2) the peculiarities are its mobility, variability, and complete recovery; (3) the diagnosis rests upon antecedent history, condition of the urine, and temperature curves; (4) the dominating factor in treatment is the uræmia.

Non-Albuminous Nephritis other than Typical Fibroid Disease of the Kidney.—D. D. Stewart, of Philadelphia, publishes some further remarks on this subject in the *Medical News* for 14th April, 1894. His earlier paper appeared in the *American Journal of the Medical Sciences* for December, 1893, and was intended to direct attention to a class of cases of chronic renal disease which had till then escaped due recognition. The clinical symptoms are said to mark it out quite distinctly from the other forms of nephritis. Founding on observations made on seven cases, the writer gives the following as the leading features that characterise this variety of kidney disease. If the urine is ever albuminous, this is probably not as an incident of the malady, as the most decided symptoms of renal inadequacy may be present, even amounting to chronic uræmia, with albumen persistently absent from the urine. The urine is subnormal in amount; usually quite scanty and high-coloured, and this without any evidence of cardiac failure, and with persistent increase of blood pressure and without dropsy, so that the oliguria is probably not of vascular origin. The specific gravity is normal, or higher than normal, though relatively low for the amount of urine voided. Casts are common, though, as a rule, not numerous; they are principally hyaline, but a few granular ones are always present. Epithelial casts are rare; they were seen in two of the cases. Waxy casts were noted in one. Renal epithelium was observed in all the cases. Oxalates are common; there is frequently an excess of urates, and blood and pus are occasionally present. The total solids (urea and mineral salts) are always diminished. Uric acid is normal or diminished in quantity. Cardiac hypertrophy was not made out in any of the cases, though the first sound was always forcible, and the aortic second sound accentuated. Blood pressure was habitually raised in all the cases except one; in two others, this elevation could not be detected as long as the patients were living on a strictly non-nitrogenous diet. Uræmic symptoms are common; a sense of tiredness or aching in the loins is common; oedema is not common, and general dropsy does not occur. Three of the seven patients were under thirty years of age, the others were at or near middle life. None showed signs of degenerative processes in the body. There was pallor of the face, but no very pronounced anæmia.

Apoplexy in its Relation to the Temperature of the Body, with a Consideration of the Question of Heat-Centres.—All intracranial hæmorrhages are much more apt to be accompanied by immediate disturbances of temperature than are necrotic processes from embolism and thrombosis. These temperature disturbances in hæmorrhage are, in rare cases, a sudden initial fall; then, in almost all cases, except where the lesion is small, a rise of from one to three degrees within a day or two. On the other hand, in acute softening this initial fall and early rise do not occur, unless the process is very extensive or involves the pons.

In apoplexy due to hæmorrhage the temperature is greater upon the paralysed side than on the normal, the difference averaging about one degree. In acute softening this unilateral difference of temperature does not occur, or is extremely slight.

The rise of temperature due to apoplectic lesions depends more upon the extent and nature of the lesion than upon its location. Lesions of a hæmorrhagic character in the cortex, however, are especially apt to cause a rise of temperature. Lesions in the pons, also, whether hæmorrhage or softening, almost uniformly cause a rise of temperature.

There is as yet no clinical evidence that lesions of the basal ganglia, or of the parts about them, cause rises of temperature through destruction of thermic centres; in other words, the clinical and pathological evidence in favour of the existence of thermic centres in the human brain, apart from the regions just mentioned, is still inadequate.

A careful study of the temperature changes after apoplectic strokes is of great value from a diagnostic point of view. The temperature ought to be taken on each side of the body, and in the rectum also, if possible. The data

thus obtained will often furnish much positive evidence as to the nature of the lesion.—(Charles L. Dana, in *American Journal of Medical Science*, June, 1894.)

Persistence of the Thenar Eminence in Advanced Anæsthetic Leprosy.—Hansen has given it as his opinion that the thenar and hypothenar eminences constantly undergo atrophy in this form of leprosy; indeed, this is to him so much of a pathological law that he refused to admit that certain hands figured by Zambaco, and described as leprosy, were actually so. Hallopeau, however, recently showed to the French Society of Dermatology and Syphiligraphy a patient who, with other undoubted symptoms of leprosy, including the deviations and deformities of the fingers, had nevertheless one of the thenar eminences of normal bulk, its muscles, too, contracting in healthy fashion.—(*La France Médicale*, 20th April, 1894.)

Pigmentation of the Skin by Arsenic.—Richardière showed to the Société Médicale des Hôpitaux a patient in whom the administration of Fowler's solution, during a period of four weeks only, had produced a very marked brownish pigmentation of the skin. The patient, a female, was troubled with glandular enlargements, and had been taking arsenic in gradually increasing doses. Pigmentation began on the eighteenth day of treatment, but at the time the case was shown it had already begun to lessen, so that the epidermis was tending to regain its normal appearance.

This abnormal pigmentation was present over the whole extent of the cutaneous surface, but it left the mucous surfaces absolutely free. With regard to the skin, the colour varied at different parts, so that some portions were actually almost black, whereas the prevailing ground-tint was brownish. The darker regions were the axillæ, the neck, and the dorsal aspect of the fingers and thumbs. In addition, there were numerous lenticular pigmented spots which had developed in various traumatic foci—e. g., bug-bites, excoriations, or subcutaneous injections. Pigmentation of the skin was associated with discoloration of the hair and trophic lesions of the limbs. Whenever the taking of arsenic was discontinued, slight diarrhœa began, with weakness of the right lower limb. There were no gastric symptoms.—(*La France Médicale*, 4th May, 1894.)

A Premonitory Symptom of Phthisis Pulmonalis.—Destrée remarks that in the course of pulmonary phthisis one often observes, without any very obvious cause, inequality of the pupils. This phenomenon is not seen in cases of apical pneumonia, or of bronchitis with emphysema, but it occurs in chronic pleurisies of old standing. It has a certain diagnostic value.

Destrée made experiments on dogs and rabbits, and found that inequality of the pupils could be produced by irritation of the sympathetic in the thorax. When the nerve was stimulated in the neighbourhood of the root of the lung, the pupil of the corresponding side dilated. Autopsies on tubercular subjects frequently show that the root of the lung and fibres of the pulmonary plexus are compressed and irritated by enlarged bronchial glands. Tuberculosis of the bronchial glands may therefore manifest itself by dilatation of one pupil several years before other symptoms set in.—(*La France Médicale*, 4th May, 1894.)

General Paralysis in Childhood.—Moussous of Bordeaux, who reported a case of this kind in 1891, now puts a second one on record. He thinks the disease is not so rare in children as is commonly supposed. It rarely begins in the very earliest years of life, but it may have been preceded by convulsions and great nervous excitability. Meningitic or apoplecticiform symptoms, with convulsions, announce its invasion. Then follow vertigo, tinnitus aurium, and partial or general epileptic attacks, with or without paralysis. In the last stage there is dementia. Death takes place in from one to four years, usually by meningitis, apoplexy with hyperpyrexia, or marasmus.—(*La France Médicale*, 4th May, 1894.)

DISEASES OF THE EAR.

BY DR. WALKER DOWNIE.

Primary Affection of the Labyrinthine Capsule.—In the Section of Otology at the Eleventh International Medical Congress at Rome, over which Professor Emilio de Rossi presided, many interesting papers were read. Here a very interesting communication by Professor Adam Politzer may alone be referred to in some detail—"On a Primary Affection of the Labyrinthine Capsule," and the matter which formed the subject of his communication dealt with a rare affection of the auditory organ, which, presenting the symptoms of chronic dry catarrh of the middle ear, has not up to the present had the attention of the medical world drawn to it.

"From the examination at the general hospital for the aged at Vienna, of a large number of individuals affected with pronounced deafness, the observer has had occasion to determine in a precise manner the nature of this form of affection, characterised especially by progressively increasing hardness of hearing and of the auditory function, and the author has been able to confirm his observations by *post-mortem* examinations of persons seen by him during life. It is upon these observations that he has arrived at the conclusion that there was present with an affection of the mucous membrane of the middle ear, a primary disease of the osseous part of the labyrinthine capsule, which results in a proliferation and enormous development of the same. This disease of the osseous part is oftenest developed in the portions of the labyrinthine capsule which surround the fenestra ovalis, and produces almost always ankylosis of the stapes by the proliferative action of new tissue introduced into the fenestra ovalis. In microscopic sections this new formed osseous tissue, which encroaches greatly upon the normal parts, has all the characters of recent osseous formation, with bone spaces greatly enlarged, and with numerous newly formed blood-vessels. The osseous proliferation involves not only a thickening and an enormous increase of the labyrinthine wall, but it extends equally above the fenestra ovalis and the base of the stapes, which is joined by ankylosis with the labyrinthine capsule itself. The author then exhibited under magnifying glasses a series of preparations from individuals affected with deafness in a high degree, whom he had observed during life in the general hospital for the aged of Vienna—preparations in which could be followed the osseous proliferation of the labyrinthine capsule in the different stages of its invasion of the stapes. In the cases of deafness of a lesser degree, the newly formed osseous mass had caused the disappearance of the annular ligament which bound the base of the stapes to the fenestra ovalis, and had also produced a partial ankylosis.

"In other preparations the whole base of the stapes had been completely absorbed by the newly formed osseous mass, thickened by many times its diameter, and formed an osseous mass which closed completely the fenestra ovalis.

"In another series of preparations the osseous mass was seen to issue from the labyrinthine capsule and penetrate not only into the base of the stapes, but also into the triangular space formed by the two branches of the stapes, so that the base of the stapes seen from without was completely covered by proliferations of newly-formed osseous tissue.

"In cases of still higher degree of deafness the stapes appeared to be transformed into a triangular bone, which closed the fenestra ovalis and the niche.

"Among the preparations one was exhibited in which almost all the labyrinthine capsule appeared transformed in this manner. The osseous proliferation extended even in the direction of the cochlea, and completely filled the scala tympani with new-formed osseous material. As to the etiology of the affection there does not appear to be anything definite, except that it occurs for the greater part in very aged individuals. In two cases the patients

suffered from gouty manifestations. It has not been possible to establish the syphilitic origin of the affection. From the researches of Moos it would, however, appear indisputable that in chronic syphilis, local lesions may develop in the walls of the tympanic cavities. The author then reviewed the therapeutics of the disorder, and expressed the opinion, from the results of examination of the anatomical specimens, that this disorder of the ear must be considered to be incurable.

"Latterly it has been proposed in cases of dry catarrh of the middle ear to extract the stapes as a means of amelioration of hearing. But it is scarcely possible that this operation, even if performed immediately when the first symptoms of the affection were recognised and while the stapes was yet movable, could lead to any useful result, since, as is shown by the pathological sections, the newly-formed bone in the labyrinthine capsule tends to constantly advance in the direction of the fenestra ovalis, from which we may conclude that even after extraction of the stapes, the fenestra would still be ultimately closed by ossification. When once ankylosis has occurred, extraction is impossible, because the immovable branches of the base of this ossicle tend to break away from the body of the bone under traction. However, when affections of this nature, which are characterised by their insidious progressive march, are still at their commencement, the author is able to recommend in all cases, as a curative internal means, the intermittent use of fairly strong doses of iodide of potassium, but the value of this treatment itself has need of demonstration by further observations and practical experiments yet to be made."—(*Journal of Laryngology, Rhinology, and Otology*, May, 1894.)

Pathological Conditions following Piercing of the Lobules of the Ear. By Dr. Max Thorner.—In this article the author points out that the custom of piercing the lobule of the ear is barbaric in its origin, as well as in the crude methods by which it is performed. The results following the operation are often troublesome, and have at times been followed by fatal consequences. He details several cases where complications supervened. In three there was erysipelas of the auricle and face, in two the lobule was cleft, in several cases eczema followed. In others new growths made their appearance, and one case is described where a woman had both earrings torn from the lobules, and where this injury was followed by the appearance of double fibromata necessitating the amputation of both lobules. A case of keloid is also described as a result of having the lobes pierced.—(*Journal of the American Association*, July, 1894.)

Furuncular Abscess of the External Auditory Canal.—As additions to the means recommended for the treatment of abscess of the external auditory meatus, the following may be of interest. The first is recommended by Dr. Barret in the *Annals of Ophthalmology and Otology* for July, 1893, who recommends the use of a brisk purge as one of the first steps. The use of such, he thinks, will effect sufficient depletion as to render the local abstraction of blood by means of leeches unnecessary. Following the purge he recommends the application of dry-heat (hot flannels, hot salt bag, or hop pillow) to the ear as the best means of relieving pain. The surface of the swollen meatus is then coated with an ointment containing twenty grains of extract of arnica and belladonna to an ounce of lanolin. A pledget of cotton wool is then inserted into the meatus so tightly as to exert as great pressure as can be borne, and it should be retained as long as possible. The cotton wool may be charged with a ten per cent solution of menthol, which is considered efficient in arresting the development of the *staphylococcus pyogenes aureus* and the *streptococcus pyogenes*, and those tampons should be applied afresh each day. Our author states that by such means pain is readily relieved, and new furuncles do not appear.

Dr. Courtade, in the *Annales de Mal. de l'Oreille et du Larynx* for December, 1893, recommends "intubation" in the treatment of abscess of the auditory meatus. By intubation he means the introduction of a rubber tube into the

passage, which serves both as a drain and a permanent dilator. The tube is retained for several days, and as the swelling subsides it is withdrawn, and replaced by tampons of iodoform gauze. Each time the gauze tampon is withdrawn the canal is irrigated with a solution of camphorated salol, and a fresh pledget applied.

[Such treatment as the foregoing could only be of service where the condition was met with in the very earliest stage, or after the abscess had been freely incised and the contents thoroughly removed.—J. W. D.]

DISEASES OF THE SKIN.

By DR. A. NAPIER.

Diagnosis of Skin Diseases.—In an interesting paper, published in the *Practitioner* for January last, Dr. Alfred Sangster gives, in a condensed form, many important and valuable hints as to diagnosis of skin diseases. The elements of a sound diagnosis he finds in two main groups of enquiries—I. The enquiry as affecting the patient; II. The enquiry as regards the eruption. These enquiries are thus tabulated:—

I.—THE PATIENT.

A. AGE—

- (a) *Infancy*.—Syphilis (congenital); nævi; symptomatic erythematæ; intertrigo; sclerema neonatorum.
- (b) *Childhood*.—Scarlatina; morbilli; Rôtheln; varicella; symptomatic erythematæ; lichen urticatus; impetigo capitis; impetigo contagiosa; tinea capitis; favus; ichthyosis (xeroderma).
- (c) *Adolescence*.—Acne; lupus; erythema nodosum.
- (d) *Early adult life*.—Secondary syphilitic eruptions; psoriasis; sycosis; lupus.
- (e) *Later adult life*.—Acne rosacea; lupus erythematosus; chloasma uterinum.
- (f) *Old age*.—Rodent ulcer; epithelioma; prurigo senilis; phthiriasis.

B. SURROUNDINGS—

- (a) *Locality*.—Leprosy; favus; Burmese ringworm.
- (b) *Climatic conditions*.—Sweating eruptions; prickly heat (miliaria rubra, eczema solare); dysidrosis; pernio; lupus erythematosus (?); prurigo hiemalis.
- (c) *Occupation* (contact with irritants).—Common dermatitis produced by chemical, thermal, or mechanical irritants (silversmiths, grocers, bakers, compositors, barmen, cooks, &c.); friction in trades; sitting posture.
- (d) *Clothing*.—Diapers in infancy; friction from clothing; woollen fabrics; flannel eczema (lichen circumscriptus); boots; hats; garters; nits in clothing; pediculi.
- (e) *Soap and water, irritating applications*.—Overuse of water; hydrotherapeutics; hard water; irritating soaps; cosmetics; poultices.

C. GENERAL CONDITION OF PATIENT—

- (a) *Condition of skin*.—(1) *Inspection*—Anæmia; cyanosis; icterus; argyria; bronzing; unequal distribution of pigment; leucoderma; chloasma; arsenical pigmentation; evidence of scratching; wheals; prominent follicles; excoriations; blood-crusts papules; bruises (pinching). (2) *Touch*—Fever or the febrile condition; exanthematæ; symptomatic erythema; roseola; abnormal dryness or harshness; xeroderma; diabetes; pityriasis tabescentium; œdema; Bright's disease; local stasis; varix.

C. GENERAL CONDITION OF PATIENT (*continued*)—

- (b) *Alimentary canal*.—Inspection of tongue—syphilis; glossitis; mucous patches; leucoplakia; tonsillitis; furred or oedematous tongue; dyspepsia; diet; eczema-producing articles—oatmeal, much milk, alcohol, sugar; injudicious dietary in infancy; drugs (medicinal eruptions)—copaiba, cubebs, potassium iodide, potassium bromide, quinine, chloral hydrate, belladonna, antipyrine, &c.
- (c) *Signs of recent or old syphilis or struma*.—Screw-driver teeth; chancre; adenopathy; condyloma; hair falling; scars; nodes; strumous habit; scars about neck.
- (d) *Subjective symptoms*.—Itching; tingling; neuralgia.

II.—THE ERUPTION.

A. THE LESION—

- (a) *Primary lesions*. { Macule, papule, tubercle, wheal, vesicle, pustule, bulla.
- (b) *Secondary lesions*. { Scale, crust, excoriation, rhagades (fissures), ulcer, scar.

B. DISTRIBUTION—

- (a) *Local diseases affecting certain regions*. { Scalp and beard—Alopecia areata, tinea tonsurans.
Face—Erysipelas.
Forehead—Chloasma uterinum.
Lips and alæ nasi—Herpes catarrhalis.
Upper lip—Rhinoscleroma.
Beard—Sycosis.
Nose, cheeks, and chin—Acne rosacea.
Hands and feet—Dysidrosis, cheiropompholyx
Prepuce—Herpes preputialis.
Eyelids—Xanthelasma palpebrarum, milium.
Nipple—Paget's disease.
- (b) *Diseases preferring but not confined to certain localities (symmetrical)*. { Face—Seborrhoeic eczema, ephelis, acne.
Nose and cheeks—Lupus erythematosus.
Ears—Xanthoma, lupus erythematosus, pernio.
Shoulders and back—Phthiriasis, acne.
Chest and back—Tinea versicolor, pityriasis rosea.
Sternal region and interscapular region—Lichen marginatus (flannel eczema).
Extensor surfaces of limbs, elbows, and knees—Psoriasis.
Flexures of joints and behind ears—Idiopathic eczema.
Webs of fingers and toes, front of wrists, axillæ, inside of thighs, abdomen, penis, buttocks (in children)—Scabies.
Backs of hands and forearms, front of legs and insteps, face—Erythema multiforme.
Buttocks, palms and soles—Congenital syphilis.
Palms and soles—Late syphilis.
Fingers and toes, extremities near joints—Pernio, Raynaud's disease, peliosis rheumatica.

B. DISTRIBUTION (*continued*)—

(c) *Diseases preferring but not confined to certain regions (asymmetrical).*

{ Middle line of face—Lupus (at first), late syphilis, rodent ulcer.
Lower lip—Epithelioma.

(d) *Diseases which may become universal.*

{ Ichthyosis,
Sclerema neonatorum,
Lichen planus,
Psoriasis,
Eczema,
Pemphigus foliaceus,
Pityriasis rubra (dermatitis exfoliativa).

(e) *Diseases affecting the area of distribution of nerves.*

{ Herpes zoster,
Zoster frontalis, capitis, nuchæ, cervicis, brachialis, femoralis,
Herpes costalis, zona (shingles),
Neuropathic papilloma.
Hemiatrophy of the face (morphœa).

C. HISTORY—

(a) *The eruption has developed rapidly within a few days (acute), and become more or less generalised.*

{ Exanthemata (history of infectious epidemics),
Symptomatic erythema,
Erythema multiforme,
Pseudexanthematic syphilis (roseola),
Medicinal eruptions,
Acute pemphigus,
Equinia (history of glanders),
Febrile urticaria.

(b) *The eruption has developed less rapidly, and become more or less generalised.*

{ Scabies,
Varicella,
Dermatitis herpetiformis,
Pityriasis rosea,
General eczema (subacute),
Urticaria,
Early secondary syphilitic eruptions (papulo-squamous, vesicular, pustular, &c.).

(c) *The eruption has developed slowly, and become generalised.*

{ Eczema,
Psoriasis,
Lichen planus,
Pityriasis rubra,
Pemphigus, &c.

(d) *The eruption has relapsed.*

{ Psoriasis,
Eczema,
Syphilis,
Pemphigus,
Erythema multiforme,
Urticaria,
Lichen urticatus.

Books, Pamphlets, &c., Received.

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- Transactions of the Fifteenth Annual Meeting of the American Laryngological Association**, May 22-24, 1893. New York: D. Appleton & Co. 1894.
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- Refraction of the Eye**, by A. Stamford Morton, M.B. Fifth Edition. London: H. K. Lewis. 1894. (3s. 6d.)
- Deaf-Mutism**, by Holger Mygind, M.D. London: F. J. Rebman. 1894. (8s.)
- Inebriety or Narcomania**, by Norman Kerr, M.D. Third Edition. London: H. K. Lewis. 1894. (21s.)
- Post-Nasal Growths**, by Charles A. Parker. London: H. K. Lewis. 1894. (4s. 6d.)
- The Phonographic Record of Clinical Teaching**. London: Isaac Pitman & Sons. 1894. (6d.)
- Précis de Clinique Thérapeutique**, par le Dr. A. F. Plicque. Paris: G. Steinheil. 1894. (7 frs.)
- Vade-Mecum du Praticien: Diagnostic et Traitement des Maladies Internes**, par le Dr. Fernand Roux. Paris: G. Steinheil. 1894. (4 frs.)

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ORIGINAL ARTICLES.

A CASE SHOWING SOME OF THE PHENOMENA
DESCRIBED IN MR. JONATHAN HUTCHINSON'S
ARTICLES ON ACRO-PATHOLOGY.

By GEO. S. MIDDLETON, M.A., M.D.,
Physician to Glasgow Royal Infirmary.

READERS of Mr. Jonathan Hutchinson's *Archives of Surgery* must be familiar with the meaning of the term "acro" in the nomenclature of diseases. In a lecture on "Acro-Pathology (Raynaud's Phenomena and Allied Conditions)," in *The Medical Week*, 24th February and 3rd March, 1893, Mr. Hutchinson has collected some of his former cases, and added many others, illustrative of those peculiar phenomena met with in the extremities, one set of which is commonly known as Raynaud's disease. The case which is the subject of the present communication appears worthy of record as clearly coming within his category, while differing from any of the cases he has described in presenting distinct, though temporary, paralytic symptoms.

On 4th May, 1893, E. M., a girl 11 years of age, was sent to see me at the Royal Infirmary by my friend Dr. Scanlan. On that date the following note was made:—"The girl is unable to stand erect, the right heel being drawn up and the

knee bent, while, when the right foot is put flat on the ground, the trunk becomes flexed on the thigh. She cannot walk without assistance. The right leg is extremely stiff, and, as she lies in bed, the whole body can be moved by moving the right foot alone. The rigidity is so great that the leg cannot be straightened on the thigh without the exercise of considerable force. The condition is strongly suggestive of Erb's spastic paralysis. The rigidity of the right leg is said almost to disappear on rubbing. A similar rigidity to a less extent affects the left leg. The knee-jerks are not increased, and no ankle clonus is elicited.

"Both legs, but especially the right, have been subject from the onset to what her mother calls a rash. On standing, both become of a dusky livid colour, the lividity being more marked in the calves of the legs than elsewhere, but extending from the toes well up into the thighs. Along with the lividity there is marked coldness of the parts. There is no atrophy of the leg, but the muscles of the right calf are rather more flabby than those of the left. There is no pain on handling the limbs, but it is stated that she does complain of pain when the limbs are rubbed. There is no evidence of any affection of the hip-joints, of the vertebral column, or of the upper limbs. There is extremely well marked *tache cérébrale*. The cardiac dulness is slightly increased to the left, and is continuous with a dulness in the lateral region, probably splenic. At the base of the heart a brief ventricular-systolic murmur is heard, probably anæmic.

"She had whooping-cough in early infancy, measles at the age of 4, and scarlet fever when about 9 years old—all mild attacks, with complete recovery. She had otherwise been healthy and strong till about January, 1893, when she began to complain of "sourness of the stomach," bringing up mouthfuls of sour fluid from time to time. On 1st April she went to Mauchline for the spring holidays, and on 4th April, when out a message, she was suddenly seized with stiffness in the right leg. From that date there had been some disablement of both legs, which were said to have been swollen. Pain was complained of only on trying to walk. The blueness of the skin was present from the outset. She was brought home on 10th April, and when first seen by Dr. Scanlan her case was looked upon as erysipelas.

"The girl had never been regarded as nervous. She had not been subject to chilblains, did not complain of the cold of winter, and had always been able to join in games without breathlessness. She had always been well fed and clothed.

"Her father and mother are healthy, and no such case had occurred in either of their families. She has two brothers older and one younger than herself, and these have always been healthy."

I formed the opinion that the skin phenomena were analogous to those of Raynaud's disease, and that the nervous symptoms were purely functional. I, therefore, gave a good prognosis.

"*30th May, 1893.*—This girl has been getting worse since the above note was made, and was admitted to the Infirmary to-day. She is now quite unable to stand, and, even when supported on both sides, she cannot stand erect. On attempting to walk with the assistance of two people, she bears absolutely no weight on the right foot, hopping on the left alone. The legs both get very blue and very cold; this blueness has now extended considerably higher than when first seen. While she moves the left leg freely, she cannot move the right at all, but lifts it with her hands. The right leg is said to be getting smaller, but there is no very apparent difference. Sensation seems to be good. The knee-jerks are well developed, but rigidity is no longer present. There is no pain complained of, even on standing."

Taking the same view of her case as I had done before, I told her mother in her presence that she had better stay in the hospital, and she would come all right.

"*1st June.*—Her temperatures have been subnormal, the highest being 98°. The bowels are regular.

"She can now not only move the right leg, but walk upon it without support, although with a tendency to stagger. The legs still become blue on standing. She has had absolutely no treatment beyond rest in bed.

"*9th June.*—As she lies in bed the legs present a normal appearance and a normal temperature, but immediately on being made to stand on the floor, the right leg shows a tendency to red lividity. This apparently begins in the calf of the leg, and does not seem to be preceded by any stage of pallor. It soon extends so as to involve the whole of the feet and the toes, and reaches as high as the gluteal region. It affects also the left leg, but to a less extent than the right. The colour gradually becomes more and more livid and blue, and, in the right leg especially, there are soon developed the so-called plaice-spots of Jonathan Hutchinson, varying in size from that of a pin head to that of a haricot bean. These have been observed on various occasions. They vary in size and also in situation. The purple livid colour is readily

displaced by squeezing and rubbing the part, by which means the blood is driven out of the subcutaneous tissues, but the pallor is immediately replaced by redness. This redness resembles the scarlet fever rash in consisting at first of minute red points, which coalesce so as to form a general redness. Coldness of the extremities is no longer at all marked. There is no involvement of the hands or fore-arms, and no very evident affection of the face, but just at the time she was first seen, a rash had appeared on the face and nose, which even now present a scurfy desquamation. She is a healthy-looking girl, without emaciation and without anæmia. The right leg, on measurement, is everywhere slightly less than the left:—

	Right.	Left.
At ankle,	6 $\frac{1}{4}$ inches.	6 $\frac{3}{4}$ inches.
Calf,	9 $\frac{1}{2}$ „	9 $\frac{3}{4}$ „
Middle of thigh, . . .	13 „	13 $\frac{1}{4}$ „

There is no disturbance of sensation. She now walks perfectly freely, paralysis being entirely gone. The *tache cérébrale* is extremely well developed, the redness being very pronounced, and there being also well-marked elevation of the skin, the colour of which is pale; both of these phenomena persist for a considerable time. There is no enlargement of cardiac dulness, and no murmur. Her temperatures have been normal.

“21st June.—On hanging by her side, the arms now show a slight amount of the same phenomena as the legs.

“10th July, 1893.—Patient was dismissed to-day. Improvement has gone on steadily. For several weeks she has been up and out daily. All trace of paralysis has completely disappeared. There is no longer any coldness of the extremities; blueness with the red plaice-spots is very slowly produced, to a very limited extent, and only when she is made to stand with feet and legs bare. There is no blueness when she goes to bed at night after having been up all day.

“During her residence the average of the temperatures has been—morning, 97.7°; evening, 97.9°.”

After leaving the hospital she remained perfectly well till towards the end of the year, when for three or four weeks she suffered from weakness of the right leg without complete loss of power, with, at the same time, coldness and lividity of the limb. The weakness of the leg was recovered from quite suddenly.

On 7th April, 1894, when she was last seen, there was no loss of power in the legs, but, on standing, both legs presented

lividity with red spots, without coldness. Sensation was normal. The right knee-jerk was defective. There was still a difference in the girth of the legs, the measurements being—

	Right.	Left.
Calf,	11 inches.	11 $\frac{1}{2}$ inches.
Ankle,	7 $\frac{1}{4}$ „	7 $\frac{1}{2}$ „

The skin condition in this case corresponds very closely with that described by Mr. Jonathan Hutchinson, and is very suggestive of analogies to Raynaud's disease. The nervous phenomena, more especially in respect to the rapidity of recovery, would ordinarily be dismissed as functional or hysterical. Their connection with the skin symptoms, and the difference that was made out in the measurement of the legs, lead me, however, to believe that they must have had some organic change as their cause—probably of a nature similar to that giving rise to the affection of the skin. That the latter was due to some disturbance of the vaso-motor centres may be accepted as highly probable; and this case appears to me of special value, as tending to throw a little light on that large class of nervous diseases of the pathology of which we know so little that we class them as functional.

EXCISION OF THE ELBOW-JOINT, WITH THIRTY CASES IN ILLUSTRATION.¹

By DUNCAN MACARTNEY, M.A., M.B.,
Surgeon to the Dispensary of the Glasgow Western Infirmary.

THE frequency with which, both in hospital and private practice, disease of this joint is met, and the good results obtainable by excision, as compared with those following a similar operation on any other of the larger joints, have been my reasons for the selection of this subject at this particular time.

The *landmarks* that are of prime importance for diagnostic and other purposes in the region of the elbow-joint are—the internal and external condyles, and the tip of the olecranon process. When the fore-arm is fully extended, the tip of the olecranon is slightly above the level of the intercondylar line;

¹ Submitted as a thesis for the degree of M.D. in the University of Glasgow, May, 1894.

when the fore-arm is at an open angle (130°) with the upper arm, the three points are on a level; when in complete flexion, the olecranon is below the intercondylar line. Viewed from behind, when the elbow-joint is a right angle, the position it naturally assumes in diseased conditions, the three points form the angles of a nearly equal-sided triangle—a triangle which is changed in character in fractures and dislocations, and is completely hidden in diseased conditions of the synovial membrane.

The head of the radius can be felt at the back of the joint in relation with the rounded external condyle, and the coronoid process of the ulna can, by firm pressure with the thumb, be felt in front in the cubital triangle.

The two condyles are on the same level as regards the axis of the humerus; but, in relation to the axis of the fore-arm, the internal condyle is on a higher level. In other words, the axes of the upper arm and fore-arm are not in the same line, but meet at such an angle that the natural movement of flexion takes the hand to the mouth, as should be; not to the shoulder, as it would do were the two parts of the limb on the same axis. This is accounted for by the outward inclination of the trochlear surface of the humerus.

The muscular masses (supinators and extensors on the outer side, pronators and flexors on the inner side) serve to strengthen the joint in its lateral aspects. However free the movements of flexion and extension, no lateral movement exists in the normal healthy joint. These muscular masses, taking origin from the neighbourhood of the condyles, converge to form the cubital triangle, with its arrangement of veins, ulnars, and radial joining with the divisions of median to form the basilic and cephalic veins; with, also, the tendon of the biceps, the brachial artery, and median nerve all traceable in this space. The ulnar nerve lies posteriorly between the olecranon and the internal condyle.

A bursa lies over the tip of the olecranon, and another under the triceps tendon above the apex of this process.

The *joint* is formed by the lower end of the humerus in contact with the radius and ulna. The great sigmoid cavity of the ulna articulates with the trochlea of the humerus, admitting of flexion and extension only. The head of the radius, with its slight depression, turns freely round the capitellum of the humerus, while the margin of the disc-like head articulates with the smaller sigmoid cavity of the ulna. Flexion and extension are limited by the coronoid and olecranon processes in their respective fossæ. The radius is in most complete contact with the capitellum in the semi-prone

and semi-flexed position of the fore-arm; in full extension the anterior margin of the head of the radius is just in contact with the capitellum; in complete flexion the margin of the head of the radius is in touch with the depression above the capitellum.

In the matter of *ossification*, four separate nuclei form in the lower end of the humerus; in the capitellum, in the third year; in the internal condyle, in the fifth year; in the trochlea, about the twelfth year; and in the external condyle, in the fourteenth year. The internal condyle is firmly united to the shaft in the eighteenth year. [In the case of T. M., a lad of 16, reported at length later on, this process was separated and driven up among the muscles by injury from a fall.] The other three nuclei unite with the shaft about the sixteenth or seventeenth year.

The nucleus in the head of the radius appears about the fifth or sixth year, and osseous continuity is complete about the same time as in the humerus.

The upper end of the ulna has a nucleus for the tip of the olecranon which appears in the tenth year; the remainder of the olecranon is formed in connection with the shaft. Continuity complete as in the humerus.

The *synovial membrane* reaches up on the humerus to the fossæ for the coronoid and olecranon processes, and downwards to surround the head of the radius.

The *muscles* that are in intimate relation to the joint, as regards the operative measures usually employed, are the biceps, brachialis anticus, and triceps. The extensors and supinators, the flexors and pronators, are of secondary importance, as their continuity over the joint is never broken if close enucleation of the bones be performed. On the outer side careful removal of the tendon of the triceps, as close to its insertion as knife or elevator will remove it, is necessary to preserve its expansion, which combines with the deep fascia of the fore-arm. By this means only, in the usual method of operation, can the extension power of this muscle be retained in an excision of the elbow-joint.

Flexion is secured by the preservation of the insertion of the biceps into the bicipital tubercle of the radius, and of the brachialis anticus into the slope of the coronoid process of the ulna.

The ulnar nerve, lying between the internal condyle and the olecranon, and the posterior interosseous nerve near the head of the radius, are the only nerves of any importance lying in the field of operation, and will be referred to later.

Blood Supply.—On the outer side, the superior profunda accompanies the musculo-spiral nerve round the back of the humerus, reaches the outer and anterior portion of the joint, and, lying deeply in the interval between the brachialis anticus and supinator longus, descends to its anastomosis with the recurrent radial. As it passes between the tendon of the triceps and the humerus, it gives off a long branch which descends to the elbow-joint, behind and to the outer side, there to inosculate with the interosseous recurrent, and a second branch which makes for the inner side to meet the ulnar recurrent and the anastomotic or the inferior profunda.

The inferior profunda, which descends the brachium with the ulnar nerve, lies on the inner surface of the triceps, and, getting between the olecranon and the inner condyle, it anastomoses with the posterior ulnar recurrent and the anastomotic artery.

The anastomotic arises about 2 inches above the bend of the elbow, runs directly inwards above the inner condyle, and, after piercing the septum, runs outwards between the bone and the triceps, meeting the superior profunda, so forming a posterior cubital arch. It gives off a branch which anastomoses with the anterior ulnar recurrent. Behind the internal condyle it gives a branch to the posterior ulnar recurrent, and several smaller branches to the structures of the joint and the triceps.

The ulnar gives off a posterior recurrent, an anterior recurrent, and the posterior interosseous arteries, which anastomose as above.

The radial recurrent runs upwards, under cover of the supinator longus, in front of the external condyle, where it inosculates with the terminals of the superior profunda.

This very free anastomosis behind the joint is of the first importance, considering how frequently the flexion of the fore-arm interferes with the regular flow of blood through the arteries in front of the joint.

Of the *ligaments*, the anterior and posterior are both thin and loose sheets of tissue, and this is necessary to admit of the free movements of extension and flexion. The internal lateral ligament is in two portions, and firmly binds the internal condylar eminence to the coronoid process and to the inner border of the olecranon. The external lateral ligament is intimately connected with the attachment of the external muscles, and binds the external condyle to the annular ligament of the radius and to the outer margin of the ulna.

The strength and stability of a joint depend on the strength of its elements, bone, ligament, or muscle, and the majority of the joints of the body owe their strength to one of their elements in particular. The shoulder-joint, for example, is especially strong in its muscular element, the joint being entirely surrounded by powerful muscles. The cavity of the glenoid fossa is, however, shallow, and while this admits of great freedom and range of movement, it does so at the expense of strength. Again, the hip-joint is especially strong in its osseous element; witness the depth of the acetabulum surrounding the whole head of the femur. In such a joint as the sterno-clavicular joint, the muscular element is practically wanting, its osseous element has no interlocking power, only the ligaments contribute to its strength. The strength of the elbow-joint is composite in character. Looked at, as regards its antero-posterior movements, it has practically neither ligamentous nor muscular support. Its stability is due alone to the accurate adjustment and firm grip of the ulna on the corrugated surface of the humerus. The lateral strength of joint is contributed to alike by the supporting strong muscular masses which pass over the sides of the joint, by the strong lateral ligaments, and by the wedge-like nature of the large sigmoid surface fitting accurately into the corresponding part of the humerus.

CONDITIONS LEADING TO NECESSITY OF EXCISION ARE—

1. *Injury.*
2. *Disease*—(a) *Tubercular*; (b) *Syphilitic.*
3. *Ankylosis*: the result of previous disease or injury.

INJURY.

The injuries for which excision has been practised at my hands were of three varieties. In the first, a bad T-shaped fracture of the lower end of the humerus, accompanied with copious hæmorrhage, after less strenuous measures had been tried, necessitated the excision of the joint. This case is reported in full below. In a second case, a dislocation backwards of several months' standing could only be improved by the same method of treatment. The third was an example of a compound fracture of the olecranon, the joint being opened into. It was first seen several days after the accident.

CASE 21 (in list at the end).—T. M., aged 16, a labourer, residing in Kirk Street, Milngavie, was admitted to Ward XIV, Western Infirmary, with severe injuries sustained by falling

down a shaft at Craigmaddie Water-works, 28th August, 1893. The total distance fallen was 60 feet, but the fall was broken at various places by intervening stagings or other obstacles.

On admission, the patient was suffering severely from shock; his respiration and pulse were rapid, and he was slightly delirious.

His injuries were as follow:—A comminuted fracture of the bones forming the right elbow-joint, a transverse fracture of the right humerus just below the insertion of the deltoid, dislocation outwards of the sternal end of the clavicle, and a Colles's fracture of the left radius. There was evidence of severe bruising of the soft tissues over the right eye; the ecchymosis was not sub-conjunctival. There was no sign of serious head injury. Round the right elbow-joint there was extensive swelling from effused blood.

29th August.—Patient delirious, and with difficulty kept in bed. Urine withdrawn by catheter.

30th August.—The swelling over the elbow was to-day opened and drained by Dr. Patterson, in the hope of reducing the delirium by the relief of the tension in the part.

2nd September.—The temperature of patient rose to 104° F. this evening, and Dr. Macartney, now on duty in the wards, incised the tissues freely over the elbow, removing such fragments of bone as were within easy reach, and lying almost loose, the largest piece being the upper portion of the olecranon process.

4th September.—As no improvement had taken place, Dr. Macartney, in consultation with Dr. Dalziel, decided to try excision of joint as an alternative to amputation. This was done at once, with the help of Dr. Robert Freebairn, a former student of the infirmary, who happened to visit the ward at the time. When the soft tissues were cleared away in the usual manner, it was found that the olecranon had been fractured into the centre of the greater sigmoid cavity, that the lower end of the humerus had been transversely fractured just above the level of the external condyle, the shaft itself being split for some distance upwards; and the internal condyle had been separated and pushed up among the muscles on the inner side of the arm. The fragments were removed, and the ends of the bones sawn across at the usual site. All *débris* was scraped out of the wound, which was freely scrubbed with carbolic solution (1 to 20). The wound being sutured, drainage arranged for, and dressing applied, the arm was fixed on a straight splint, the shoulder-joint also being kept at rest by a well-padded shoulder-cap of poro-plastic.

This was for the sake of the upper fracture, near the deltoid insertion. In the state of the right arm, of course, nothing could be done for the dislocation of the clavicle; all the more so, because of his wild delirium.

6th September.—Up till last night (thirty-six hours after operation) patient's condition was nearly as bad as ever, with high temperature and delirium. He was only kept at all quiet by repeated large hypodermic injections of morphia.

12th September.—Since last note patient has made gradual improvement in every way.

31st October.—Patient, having made a good, though slow, recovery, was dismissed to-day, to return as an out-door patient.

The excision wound had healed well, though the customary movement of the joint, as part of the treatment, could not be effected, because of the fracture higher up. A fair amount of movement was obtained, but not so much as was deemed possible. Accordingly, at Dr. Patterson's suggestion, the wound was reopened, and additional slices removed from the ends of the bones. This wound having healed, it was found that the movement obtained was as before the second operation. His range of movement is about 60°. The alteration of the axis of humerus by reason of the higher fracture, which was treated under such unfavourable conditions, is the most likely explanation of the limited movement in this case—a movement, limited though it be, which gives him a very useful arm, though not so good as one could have wished.

While the case just narrated was engaging my active attention, another of a similar nature was brought to the ward.

J. F. (No. 22), aged 58, a coachman residing in Buchanan Street, Balfron, was admitted to Ward XIV, on Sunday, 17th September, 1893, suffering from injury to his right elbow-joint. While the patient was driving on the preceding Thursday (four days previously), his horse bolted, the carriage was upset, and he was dragged along for about a hundred yards with his arm jammed between the ground and the lamp-holder.

The olecranon process and internal condyle, with the soft tissues in their immediate neighbourhood, had been ground away, and the joint opened. Sloughing of the margins of the wound all round was in active progress, and pus was being secreted copiously both within and without the joint.

Patient was pale and exhausted looking; pulse, 90; temperature, 100·8° F., in the afternoon of admission.

18th September.—The joint was excised to-day by Dr. Macartney in the usual manner.

12th October.—Patient has gone on remarkably well, though, for the week succeeding the operation, troublesome diarrhoea retarded his progress. The cause of this diarrhoea was only after a time discovered to be some remarkably strong doses of Epsom salts that patient had taken on each of the three days preceding his arrival at the Infirmary. To-day the arm was fixed on a rectangular splint, and patient allowed to get up for a short time.

3rd November.—Dismissed, to return as an out-door patient.

9th May, 1894.—His arm is now well. He has a range of 90° of flexion-movement, and he can use the limb for purposes requiring no great muscular effort. The slight stiffness of his fingers is a greater bar to the free use of the arm than the condition of his elbow-joint. Judging from other cases I have had under my care, his arm will improve to a stronger and more flexible condition than even its present favourable state.

This patient, though 58 years of age, was of the hardy, wiry kind, and had lived a good life as regards habits, and a healthy life as to occupation and residence. His tissues had the vitality and recuperative power of the average town patient of, say, 40 years of age. At any rate, that idea was uppermost in my mind when I decided that excision, not amputation, was to be my procedure, and, having excised, the same idea compelled me to aim at a movable elbow, and not allow ankylosis. Guided by his "numerical" age, under ordinary conditions, amputation, or excision followed by ankylosis, would have been my other alternatives.

TUBERCULAR DISEASE.

Tubercular disease of the joint was by far the most common condition leading to excision, the ages of the patients affected being from 3 to 40 years. In the large majority of these tubercular cases the disease affected the olecranon process with or without the condyles of the humerus. In very few, and only those of very acute disease in young patients, was the head of the radius involved. Its comparative freedom from the chances of external violence must account for the rarity of the disease in this part of the joint. Unfortunately my records cannot give numerical details on the relative frequency of the parts involved. Whether the diseased process began in bone or synovial membrane it is impossible for any one to say with definiteness, considering the advanced

stage of disorganisation in which the joint exists, as a rule, when these patients reach us, and the history of the case, as given by patient or friends, affords little sure ground on which to build a conclusion. Their mnemonic efforts are in the main directed to the discovery of a cause in some form of violence or injury sustained—usually supposititious, or at least incommensurate with the joint condition.

In only one case have I come across eburnated bone, and that was in No. 30, a girl of 17, who, for two years previous, had suffered from this form of disease. The lower end of the humerus was so dense and hard that quite an effort was needed in using the saw. Neither the ulna nor radius differed from the ordinary soft condition mostly met in tubercular bones (cancellated).

Few of these cases came to hospital in any but an advanced stage of the disease, the rule being to find the joint open, with sinuses discharging septic matter. In a small number that came to the dispensary, the disease was at a comparatively early stage, only the synovial membrane affected, or the disease confined to a localised osseous focus. In such as these, milder measures were employed than total excision. The diseased focus was removed in the latter class by what might be called a partial excision, or erasion; where synovitis alone existed, the means employed were counter-irritation and fixation. The best counter-irritant, it is almost superfluous to say, is the actual cautery, which was applied, of course, with the patient anæsthetised. The fixation-apparatus employed was a well-padded rectangular splint, special care being taken to prevent pressure on the prominent internal condyle. The splint is applied so as to admit of the cautery-wounds being dressed without removal of the splint. This is done by bandaging the fore-arm to the splint, then the upper arm, leaving the elbow with its cautery-wounds to be last covered. The angle of the splint on which the elbow rests is covered with jaconet, to prevent the discharge of healing getting on to splint or padding. An auger hole through the splint, at the point where the internal condyle will rest, is a good means of preventing a pressure sore on this too commonly injured process. This, for local treatment; the constitutional remedy advised is country air and good food, with plenty of milk and no tea—a very easily prescribed remedy, but, unfortunately, the unhappy victims of this disease, met with in dispensary practice, are rarely able to adopt the remedy in any one of its details. As substitutes for, or adjuvants to the treatment, the time-honoured cod liver oil and Parrish's syrup are also given.

SYPHILITIC DISEASE.

This disease, in its tertiary stage, gave rise to joint destruction in three cases in adults, in all of whom a sufficiently definite history of the early stages of the disease was obtainable. In them the diseased process began in the bony structures, involving the joint proper secondarily. They all did well.

ANKYLOSIS.

Ankylosis, in bad position, was the cause of operation in one patient. The deformity was due to old tubercular disease, as far as the history could make out, and consisted in the fixation of the joint at an angle of about 120° , rendering the limb of very limited use. This patient did well enough, though healing was slow, and complicated with suppuration along the plane of connective tissue up the outer part of the upper arm. But she early discontinued her attendance as an out-door patient, and the ultimate result I cannot give, as I can find no trace of her. When she ceased her attendance the movement was good, though there was still a small unhealed part in the wound of incision.

HISTORY OF OPERATION.

The performance of the operation of excision of the joint (elbow), as the operation of excision is now understood, dates back precisely one hundred years. The excision of this joint from a living patient was performed first by Moreau of Bar-le-duc (then called Bar-sur-ornains) in 1794. But other joints had been excised by Moreau and others before this. If the removal of a piece of necrosed bone, or of a projecting end of fractured or dislocated bone, were to be considered under the head of excision, then the operation goes back to pre-historic times, for examples can be seen proving that even trepanning was done by the cave-dwellers. But the planned and precise idea of finding among the soft tissues a portion of bone (not necrosed), and occupying its normal position, and then removing it, dates back only to the last quarter of the eighteenth century.

In Greek and Roman literature some passages are found in favour of resections—even resections of joints and removal of long bones. But such dicta had been entirely lost to medical memory, or at least were a dead letter even for the surgeons whose work was inspired by the ancient writers. They

attacked bones *in situ*, they trepanned them, they freely cauterised them, but they only removed the loose ends in dislocations or in bad compound fractures.

The idea of the operation of excision of a joint occurred to two men simultaneously, and was by both of them practically wrought out to realisation. As frequently has happened in the matter of discovery in surgical and other sciences (witness the discovery of the planet Neptune simultaneously, but by different methods, by Adams and Leverrier), independent observers were travelling to the same point in their studies and researches, each ignorant of even the other's existence. Park of Liverpool, and Moreau, senior, of Bar-le-duc, within a year had both performed the operation of excision of a joint, having both in view the laudable aim of lessening somewhat the great reproach of surgery—*i. e.*, amputation. Park's first excision was performed on a Scottish sailor, aged 33, who had suffered for ten years from "white swelling" of the knee. The leg was almost ankylosed at a right angle. The slightest attempt at moving the leg gave him great pain. "This poor man's sufferings, which had been some time great, were daily increasing, and his health declining to such a degree that he began to beg to have the limb taken off." This Mr. Park declined, at the same time proposing excision, though, as he says, "I rather wished to make the first attempt on an elbow." The knee-joint was excised on 2nd July, 1781. "The quantity of bone was somewhat, though not much, more than two inches of the femur, and of the tibia rather more than one inch, which were but just enough to enable me to bring the leg into a right line with the thigh, the previous contraction of the flexor muscles being such as to keep the two sawn ends of the bone in contact." Pus was in the joint, and for some months after operation inflammatory complications retarded recovery; but, in spite of injury to the part sustained by a fall early in 1782, the patient had resumed work in about a year after the excision was performed. "This man," says Mr. Park, "afterwards made several voyages to sea, in which he was able to go aloft with considerable agility, and to perform all the duties of a seaman. He was twice shipwrecked, and suffered from hardships without feeling any further complaint in that limb, and was at last unfortunately drowned by the overturning of a flat in the Mersey."

Mr. Park's second case was unsuccessful, but it was not well selected. The publication of Mr. Park's cases elicited the fact that about twenty years previously Mr. Filkin of Northwich had performed the operation with perfect success;

but, unlike the surgeons of to-day, he hid his light under a bushel. It was a pity that his retiring disposition, or his constitutional laziness as regards writing, kept back for twenty years knowledge that the profession would have, possibly, welcomed gratefully. The quotations above are from the well known letter from Mr. Park to the famous Percival Pott, which letter was subsequently published by Dr. James Jeffray, Professor of Anatomy and Surgery in our own University of Glasgow, in 1806.

After Park had removed the knee-joint, a proceeding which found no imitators in England, he designed the operation for excision of the elbow by a longitudinal incision, convertible, if needed, into a crucial incision if the parts could not otherwise be exposed. He demonstrated the operation on the cadaver, but occasion for his operating on the living does not seem to have arisen.

At practically the same time Moreau, senior, in a small village on the Rhenish frontier of France, had evolved the operation for excision. In 1782 he excised the tibio-tarsal joint, in 1786 the shoulder, in 1792 the knee, and in 1794 the elbow. The first, second, and last cases were successful; his knee case succeeded so far that consolidation was effected in three months, but afterwards his patient died of dysentery. In 1782 Moreau sent the report of his first operation to the French Academy of Surgery, but his communication was not well received by the company of savants. There is no record of his paper in their transactions; it is from his son's memoirs, written in 1803, that the information comes. A similar cold reception met the story of his shoulder excision in 1786, and Moreau was forced by the "stony stare" of French respectable surgery to find other means of letting his beneficent work be known. The chance came when the army of the Rhine encamped in the vicinity of Bar-sur-ornains. Among the military surgeons there was Percy, to whom Moreau related and showed his cases. Percy, and later, Baron Larrey in the Egyptian campaign, availed themselves freely of what they had learned from Moreau, and then in French surgery the operation gained its place.

In Britain isolated cases at long intervals were done and reported here and there over the country. Charles White of Manchester had reported a case of excision of the shoulder with illustrating plates, but it would seem that it was a sequestrotomy, not an excision, that was done. This was in the first decade of the eighteenth century. However, the story of this case long after (1771) fired the ambition of Bent

of Newcastle, who in a spirit of imitation attacked a diseased shoulder-joint, and successfully removed the head of the bone. Lenten, Orred, Cooper of Bungay, and Anthony White of Westminster, are all accredited pioneers in this field of surgery.

But the operation of excision never took its proper place in Britain in the medical world till after 1831, when it had been performed several times and written about by Syme. The glamour of that great surgeon's name and fame gave it the necessary imprimatur, and only then did it become a recognised and popular surgical procedure. And it was only excision of the elbow that Syme so enthusiastically advocated. He objected to excision of the knee, and his objection of course carried great weight with the profession. Luckily, Ferguson later on showed what could be done by the operation on the knee, and the recognised place for excisions of all kinds was now soon obtained.

METHOD OF OPERATING.

There have been variations of a small kind in the *modus operandi* of elbow-joint excision, but practically from the nature of the problem the same procedure was followed—viz., enucleating more or less clearly the ends of the bones. Incisions, longitudinal, H, Γ, I, bayonet, all have given good results. Perhaps the simple longitudinal incision over the outer portion of the olecranon process is the most universal. In any transverse incision in the humeral part of the joint needless injury may be inflicted on the triceps tendon, or the ulnar nerve may be endangered. After incision, the ends of the bones are successively cleared of the soft tissues by cutting, or by a periosteal elevator. If Ollier's method (*résection sous capsulo-périostée*) is the one chosen, in which he aims at removal of ends of the bones alone, leaving the periosteum to admit of a reformation of all the structures of the joint, then the knife will scarcely be used after the preliminary incision (bayonet-shaped, if Ollier is to be imitated.) The whole of the enucleation is done by patient work with the rugine or elevator. The objection to this method is that in the light of latter-day pathology few cases are adapted to treatment in this way, for the simple reason that, in young patients whose joints are tubercular in the condition commonly met at operation, bones, periosteum, and synovial membrane, which is practically the inner capsule of the joint, are all involved in the diseased process, and all diseased structure is to be removed if the

patient is to have the best chance of complete recovery. Again, in adults the difficulty of removing the periosteum from a joint so irregular in its contour as the elbow is insuperable: the membrane is so thin, and its plications so varied and sudden, that after your attempt is complete, you find that instead of a continuous layer of periosteal tissue, you have a thing of "shreds and patches." Further, it is now recognised that the bone-forming powers of periosteum have in the past been vastly over-rated. When one sees the good results that have been obtained by the open method, a method that occupies quite a short time as compared with the tedious sub-periosteal plan, it is not surprising that the *sous capsulo-périostée* method has not become popular.



(From a Photograph.¹)

In the cases that have come under my care, the operation done has been by the open method. A longitudinal incision, the length of which varied with the circumference of the limb, with the outer prominence of the olecranon as its middle point, has always sufficed to enable the parts to be clearly seen and removed. The incision is made clear down to the bone at once, and in the humeral portion the triceps tendon is split. The soft tissues are removed by short firm cuts with the knife, cutting on the bones to denude them as freely as possible without the operator thinking whether periosteum comes away

¹ The illustrations introduced in this paper are reproductions of some of the many photographs taken by Dr. R. Kennedy from the cases, subsequent to operation. They show the result of treatment, at least as regards the range of extension and flexion.—D. M.

entire or not. Elastic band and tourniquet were used in all the early cases, and the operation carried through bloodlessly. Latterly I prefer to operate without either, especially in healthy patients, or in those whose joint is not abnormally inflamed. Quicker healing obtains without than with the use of these aids, though the time taken may be a few minutes more.

To allow of the parts being seen, steel retractors are used. In clearing the condyles, much help is given by extending the arm fully to slacken the tissues at the seat of operation. In clearing the outer condyle and its ridge, care must be exerted to keep as close to the bone as possible, so as not to injure the expansion from the triceps tendon to the deep fascia of the



(From a Photograph.)

fore-arm, for this is the future *point d'appui* of the triceps muscle by which extension of the fore-arm is to be obtained. The internal condyle is to be cleared with equal care, as in this part of the operation the ulnar nerve may be endangered. But it seems to me that this danger is greatly exaggerated. If the operator keeps his knife against bone with short, firm strokes, he will never see the nerve, and it could only be by some very unexpected slip of the knife that this structure could suffer. Doubtless, in the pre-anæsthetic days, when speed was a principal desideratum in all surgical procedures, and consequently careful dissection of the bones was not carried out, the nerve often suffered, more especially, too, if a transverse incision was part of the proceeding adopted. I cannot but think that the present exaggeration of the danger

to that nerve, as shown forth in most of our text-books, is a legacy handed down from the early days of the operation.

When the bones are cleared, their ends are removed with the saw, in adults; in children, with bone-cutting forceps. The bone-cutters are applied in all cases to round off the sharp edges left by the first saw or forceps cut. The amount of bone removed from the humerus is all below the upper boundary of the external condyle—from the ulna, the head of it down to near the insertion of the brachialis anticus. The head of the radius is removed without interfering with the bicipital tuberosity. In clearing the head of the radius for removal, the knife should be kept cutting on the bone for fear of injury to the posterior interosseous nerve. It is of some importance to caution the assistant, when protruding the humerus through the wound, not to exert too much force, or the anterior ligament of the joint may be severed from the bone, carrying with it the periosteum, thus stripping portion of the anterior surface of the humerus, and giving rise to a needless complication. In two cases in which this occurred recovery was retarded by troublesome suppuration, with, in one of them, exfoliation of a scale of bone, which I attributed to this cause.

Lately, some of the German surgeons—Trendelenberg, Mosetig-Moorhoff; and Spuhn have advocated preserving the portion of the olecranon process to which the tendon is attached, and, after removal of the parts as ordinarily done, reuniting the preserved piece of bone to the shaft of the ulna by a pair of steel pins. This method they adopt only where the olecranon is free of disease. In America, Senn, of Chicago, pursues a similar course. There is certainly a gain in extension-movement, at least, the movement soon after operation is stronger, seemingly, than in the common method. But the liability of the preserved portion of joint-structure to the recurrence of tubercular disease, in my mind, is sufficient reason against adopting that practice. It is, at best, a partial excision, and the cases adapted for the successful accomplishment of partial excision are very few, and have to be well chosen. Argument by analogy is not the strongest form of reasoning, yet I might cite, in support of my objection to this mode, the preference given by most surgeons to Syme's or Roux's operation over Pirogoff's, in tubercular disease of ankle, for the reason that I have given.

Where sinuses exist in the soft tissues around the joint, these are most carefully scraped out with a Volkmann's spoon; or, where the anatomical arrangement of parts allows it, the

edges of the sinus are excised by scissors. The synovial membrane, where "pulpy," is also carefully cut away, the object being to remove all really or possibly infected tissue.

Drainage was secured in my earlier cases by means of a Chassaignac's tube inserted into the cavity of the wound through the lower end or middle of the incision, but, latterly, I have made wounds on the outer and inner surfaces, and passed the tube through and through the cavity left by removal of the parts. Of course, if a sinus exist in either of the surfaces, I avail myself of its position as one of the openings. In making the inner incision, a pair of dressing forceps shut, or the left fore-finger, is passed from within the wound and made to project on the surface as a guide for the knife. Without this precaution, the ulnar nerve might suffer at this stage. The object aimed at is to have the wound of incision along the back of the joint heal by first intention, in order that the least possible quantity of cicatricial tissue may exist in the line of flexion. The joint is to be formed of cicatricial tissue, and it is better to have it form across the joint—across the plane of bending—than in the direction of the movement. If ultimately it gives no better results (and I firmly believe it does) its proximate good is noticeable in the earlier and easier accomplishment of passive motion.

The edges of the wound are carefully co-apted by stretching its extremities between two steel retractors, and are stitched carefully with frequent sutures of silk-worm gut or fine silver wire.

Plenty of iodoform is dusted on the wound after its final douching with carbolic solution and perchloride of mercury solution: mercury dressing (perchloride or double cyanide) is then applied, and the limb fixed prone on a well-padded junk splint, stretching from axilla to finger-tips.

AFTER-TREATMENT.

Passive motion is begun as soon as possible. In cases that heal up without suppuration or other complication, movement is gently begun in the third week. In others, where sinuses had existed before operation, and where, as a consequence, sepsis might still exist after operation, the time of beginning movement is deferred till the inflammatory processes have nearly subsided. The first movement consists in substituting a rectangular or open-angled splint for the straight one, and at next dressing reverting to the straight splint, again to be followed by the application of the bent splint. Within a week

or two more splints are discarded, and flexion, extension, and rotation of the joint systematically carried out at regular intervals. In children and young adults the readiness with which bony ankylosis occurs calls for extra watchfulness on the part of the surgeon, who must freely use anæsthetics in the dressing and moving of the limb if a mobile joint is to be obtained. The ultimate success in every case in a great measure depends on the intelligence and firmness of the patient or his guardians. Active movement is enjoined at the later period of recovery, and if carried out, as it was in very many of my cases, a good result is secured. Unfortunately reliance cannot be placed on some of our hospital patients, and



CASE 18; see pp. 183, 187.

(From Photograph taken after Complete Excision.¹)

the operation is by their carelessness deprived of its full measure of success. As the limb is painless when at rest, and the young patient gives no trouble except when the limb is freely moved, the careless parent prefers the "quiet way" at the expense of the mobility of the child's elbow-joint.

I have made use of no mechanical apparatus for extension or flexion. Homely forms of gymnastic apparatus, if persevered with, are quite sufficient for the purpose. The use of the skipping-rope, light dumb-bells, carrying of flat-irons, coal-scuttles, &c., are suggested as aids to improved flexibility and strength, according to the age of the patient. The completion of the cure rests in the renovation of the muscular power, and only by work of some kind can this be done.

¹ Cf. p. 178.

PARTIAL EXCISION.

On four occasions I have performed this operation: in two of these, part of the olecranon was removed; in the others, parts of the humerus. In both the olecranon cases general infection of the joint followed, which had to be totally excised. One of these was a pale-faced, delicate town bred lad of sixteen years of age, the other was a man of forty (Case 18, see illustrations on pp. 182, 183). The remaining two cases were successful. They were both country bred girls about twenty years old, who, but for the localised tubercular disease of the humerus invading the joint, were healthy, well nourished



CASE 18; see pp. 183, 187.

(From Photograph taken after Complete Excision.)

patients. It would seem that partial excision is a possibly successful operation in properly selected cases, and the main factors in the process of selection are the general health of the patient, which must be good, and the age, which must not exceed the early twenties.

PROGNOSIS.

What the result of this operation will be is not in every case an easy problem to solve. In excisions for injury in young healthy adults one may hope for a good measure of movement, unless the nature of the injury demands removal of large pieces of bone. It is in such cases that flail-joint is most likely to happen. So in syphilitic joints a good result

may be confidently looked for, given the age under forty, and the general health otherwise satisfactory. It is among tubercular cases that the greatest divergence of results occurs.

The presence of tubercular disease elsewhere than the joint is distinctly a warning against indulging in too high a hope of good results. Healing is usually slow, fresh foci of disease may reappear in the region of the excision, or in other joints, or even in the serous membranes. Dr. Patterson is in the habit of teaching the extreme liability of young patients of this class to tubercular meningitis following on operation for removal of a large joint. In a boy whose right elbow I excised, who at the time had a number of tubercular glands



(From a Photograph.¹)

in the sub-maxillary region, everything went well for the month following the operation, when his right wrist showed evidence of becoming diseased. The disease made steady progress, and though the mobility of the elbow happens after all to be fairly free, he is still under treatment for his wrist, from which pieces of carious bone have repeatedly been gouged. The ultimate condition of that arm is at present very uncertain. This case is No. 9 on my list.

In the case of No. 2 a similar untoward complication supervened. During his recovery from operation, tubercular disease began in the ankle. For some years he disappeared from hospital ken, and when I saw him next, some few months ago, the elbow was free of disease, but ankylosed at a

¹ Cf. p. 178.

right angle, giving him a certain amount of use of the arm. But his ankle was very bad; nothing short of amputation, which his father would not agree to, seemed to me likely to be of any use in the case.

Phthisis pulmonalis showed itself in one case, No. 24, a woman of about 40, within a few months of operation. The disease most likely was latent at the time of operation, and a recrudescence was excited in some way thereby.

The remark made in connection with the partial operation is equally pertinent to the complete excision—that markedly good results are to be obtained, both immediate in the way of quick healing, and remote in the way of restored function,



(From a Photograph.)

where the patient is young, and, but for the elbow-joint disease, is a well nourished healthy individual.

In the matter of flail-joints, such have resulted in two of my cases. At least they would have been so described for a year after operation. But time and work have in both cases improved them completely out of that category by the contraction of the cicatricial tissue, and the improvement in the arm's muscular power. One of them is No. 8 in my list. The other patient, to whom I referred above, is an engineer on board ship, doing his daily work with no sense of inferiority to his fellows. He called on me before sailing to report himself, and the state of his arm, both as to muscular development and mobility, was gratifying alike to patient and surgeon.

LIST OF CASES.

Annexed is a list of the cases that have been operated on by me, with date of operation and other details, including results. The words I have used in describing results are those suggested in MacCormac's *Operative Surgery*, part ii, p. 399:—

"We may classify the degree of usefulness—(1) Good active movement; (2) restricted movement; (3) ankylosis, fibrous or bony; (4) flail-joint; (5) useless limb with or without nerve injury."

NOTES ON LIST.

No. 1. A subject of extensive tubercular disease, who recovered very slowly.
No. 2. Did well for a time till the onset of tubercular disease of ankle. He went home, and was out of hospital supervision for three years. Returned with extensive caries of ankle needing amputation, which his father refused for him. Elbow was healed and ankylosed at a right angle.

No. 3. Referred to in the text.

No. 4. Left hospital with good movement. His present condition unknown, as I can find no trace of him.

No. 5. On leaving hospital was enjoined exercise. Returned lately with mastoid disease; elbow ankylosed. Parent confessed to having stopped movement of joint because she cried.

No. 6. Has good movement; seen lately.

No. 7. Good active movement when seen one year after operation.

No. 8. Too much lateral or flail-like movement for a year after operation, which has almost disappeared.

No. 10. Good active movement.

No. 11. Result good, but slow in healing; had tubercular sores in sub-maxillary region. Could get no trace of her.

No. 12. Good recovery.

No. 13. Restricted movement from fibrous adhesions (have broken them up under chloroform; to return for inspection).

Nos. 14 and 15. Partial excision resulted in recrudescence of disease in remaining portions of joint, necessitating complete operation. Seen lately; had good active movement.

No. 16. Four months ago; has good active movement.

Nos. 17, 19, 20. Result good.

No. 21. Report of this case is given in full in part referring to operation after injury.

No. 22. Report of this case is given in full in part referring to operation after injury.

No. 23. Operation for ankylosis in bad position; slow recovery; left while under treatment with good movement. Present whereabouts not known.

No. 24. Phthisis supervened in left lung, from which she is at present hopelessly ill.

Nos. 25 and 26. Subjects of tubercular disease in other parts. Sinuses around elbow still active; both under treatment.

No. 27, 28, 29. Good active movement.

No. 30. This was the case referred to as having eburnated bone at end of humerus. The joint was septic before operation; and since, abscesses have formed along the planes of connective tissue above and below the joint. Recovery has been, so far, slow. She also suffers from tubercular disease in the fifth metatarsal bones.

TABLE SHOWING CASES OPERATED ON.

No.	Name.	Sex.	Age.	Limb.	Operation.	Date.	Result.
1	J. S.	M.	15	Left.	Complete.	12. 8. 1889	Good, active movement. Seen in 1892.
2	W. P.	M.	10	"	"	14. 8. 1890	Ankylosed. See note.
3	W. C.	M.	30	"	"	1. 7. 1891	Good, active movement.
4	J. C.	M.	11	"	"	29. 10. 1891	Present condition unknown.
5	H. Y.	F.	5	Right.	"	29. 10. 1891	Ankylosed. See note.
6	M. A.	M.	9	Left.	"	29. 10. 1891	Good, active movement.
7	M. M. A.	M.	11	Right.	"	29. 11. 1891	Do.
8	D. M.	M.	30	Left.	"	17. 3. 1892	Do. do. [restricted movement.
9	J. W.	M.	11	Right.	"	19. 5. 1892	Caries of wrist came on during treatment;
10	J. J.	F.	40	Left.	"	16. 6. 1892	Good, active movement.
11	Mrs. J. M. F.	F.	7	Right.	"	23. 6. 1892	Present condition not known.
12	H. D.	F.	39	Left.	"	2. 2. 1893	Good, active movement.
13	M. A. R.	F.	5	"	"	5. 11. 1892	Restricted movement.
14	J. F.	M.	14	"	{ Partial.	2. 2. 1893	Failed.
15	M. G.	F.	27	"	{ Complete.	2. 2. 1893	Good, active movement.
16	A. M. P.	M.	40	"	"	24. 5. 1893	Do. do.
17	M. M.	M.	34	"	{ Partial.	23. 5. 1893	Do. do.
18	R. M.	M.	34	"	{ Complete.	23. 5. 1893	Failure.
19	J. F.	F.	21	Left.	Complete.	14. 6. 1893	Good, active movement.
20	T. M.	F.	16	Right.	Partial.	14. 6. 1893	Function fully restored.
21	J. F.	M.	58	"	Complete.	4. 9. 1893	Restricted movement.
22	Mrs. M. G.	F.	30	"	"	18. 9. 1893	Good, active movement.
23	Mrs. R.	F.	40	Left.	"	21. 9. 1893	Present condition unknown.
24	W. M.	M.	9	Right.	"	28. 9. 1893	Phthisis supervened.
25	C. Q.	F.	11	"	"	16. 11. 1893	Still under treatment; recovery slow.
26	U. C.	F.	4	Left.	"	30. 11. 1893	Restricted movement; still under treatment.
27	W. C.	F.	6	Right.	"	30. 11. 1893	Good, active movement.
28	B. M. N.	F.	5	"	"	7. 12. 1893	Do. do.
29	H. M.	F.	17	Right.	"	8. 3. 1894	Do. do.
30					"	3. 2. 1894	Under treatment.

SOME REMARKS ON EYE SYMPTOMS IN MEDICAL DIAGNOSIS.¹

By JAMES HINSELWOOD, M.A., M.D.,

Assistant Surgeon to the Glasgow Eye Infirmary; Dispensary Physician to the Western Infirmary; Assistant to the Professor of Clinical Medicine in the University of Glasgow.

THE great value of eye symptoms as a factor in medical diagnosis is so universally recognised that it would be superfluous to enlarge upon this topic. In this paper I have no intention of attempting any systematic or detailed examination of such an extensive subject, but simply to select and bring before you some facts of clinical interest and importance, which have impressed me during years of special attention to this subject, with favourable opportunities of a large and varied field of observation.

In the first place, I wish to insist upon the great importance of a systematic examination of the eye as an aid to diagnosis in the examination of all doubtful cases. Whilst in such cases the various organs and secretions of the patient are examined with the greatest care, why is the systematic examination of the eye so frequently neglected? This is always a most serious omission, as the eye can frequently supply us with valuable information as to the present condition and past history of a patient, and thus furnish facts which are indispensable for a correct diagnosis.

The explanation of this omission is to be found in the frequent absence of subjective eye symptoms. The eye is always examined, when striking subjective symptoms are present, to which the patient directs the attention of the physician. It is, however, too frequently forgotten that great changes may take place in the eye, which do not interfere to any considerable extent with the function of vision, and, therefore, of which the patient is entirely unconscious. There may be extensive changes in the periphery of retina or choroid, but so long as the macula lutea, the part of the retina used for distinct vision, remains intact, the patient experiences little or no discomfort, and therefore no complaint is made about the vision. Yet, on ophthalmoscopic examination, changes at the fundus may be visible, which furnish valuable data for the diagnosis.

¹ Read at the meeting of the Glasgow Medico-Chirurgical Society, 27th April, 1894.

In pernicious anæmia, for example, multiple retinal hæmorrhage are of frequent occurrence, and yet in these cases the patients rarely complain of any affection of vision. These hæmorrhages mostly occur at the periphery of the retina, or just round the optic nerve entrance, the macular region and its neighbourhood being generally intact, and the visual acuity of the patient being therefore unaffected. The presence of these multiple retinal hæmorrhages in cases of anæmia is a very significant symptom, and of considerable value in forming a diagnosis. In simple anæmia and chlorosis they are scarcely ever met with, but in pernicious anæmia they occur so frequently as to form a characteristic symptom of the disease. Of sixteen cases examined by Quinke, retinal hæmorrhages were absent in one only. In thirty cases examined by Horner, extravasations were present "almost without exception." I have for years examined with the ophthalmoscope all cases of anæmia and chorosis coming under my notice, and only on two occasions have I seen these multiple hæmorrhages. Both were cases of pernicious anæmia. One of these cases was a girl in Professor M'Call Anderson's wards about a year ago, and was reported by him. In neither of my cases was there any complaint about vision, but the eyes were examined as part of the ordinary routine.

I have under observation at present a case of albuminuric retinitis, and yet the patient can read the smallest test types, there being no diminution of the central visual acuity. I have frequently seen cases of optic neuritis, which, in the early stages, caused the patient no disturbance of vision, and which would have escaped observation had not a routine examination of the eyes been made. It is therefore evident that in all cases of doubtful diagnosis the eyes should be carefully examined, even although the patient complain of no eye symptoms whatever. The examination of the eye should include a careful exploration of the fundus with the ophthalmoscope, an examination of the conjunctiva, cornea, iris, of the reflex activity of the iris, of the movements of the globe, and of the fields of vision. Such an examination can be made in a comparatively short time by one familiar with the methods, and will often yield results of the utmost value for diagnosis.

Very important facts regarding the past history of the patient may frequently be learned by a careful inspection of the eye. One of the most important points in the life history of every individual is the presence or absence of syphilis, acquired or congenital. The whole body is therefore carefully

scrutinised for traces of this disease, but too frequently the eye is either not examined at all, or else only in a very cursory and imperfect way. Yet the eye is one of the organs most frequently attacked both in acquired and congenital syphilis, and the disease almost always leaves here distinct traces, an ineradicable record, which can be seen during the rest of the patient's life. These traces, however, may escape observation, unless they are carefully sought for in the proper way. The parenchymatous corneitis of childhood and youth, which is one of the most frequent symptoms of congenital syphilis, leaves its traces on the cornea for the rest of the patient's life. The resulting opacities are frequently evident enough to cursory inspection, but in other cases these have cleared up so well that merely a faint diffuse corneal opacity remains, which is visible only on illuminating the cornea strongly. This is best done by concentrating, with a convex lens of short focus, a pencil of rays on the surface of the cornea. In many of these cases, too, when the cornea has cleared up sufficiently to permit an ophthalmoscopic examination, we may see the traces of a peripheral choroiditis, in the form of numerous black spots, lying most abundantly in the periphery of the choroid. This choroiditis, however, may be the only trace in the eyes of congenital syphilis, the cornea and external appearances being normal. Hence if there be any suspicion of congenital syphilis, the eyes ought always to be examined carefully with the ophthalmoscope, although the external appearances are normal, and the patient's visual acuity is good. These spots of choroiditic atrophy are frequently confined to the periphery, the macula and its neighbourhood being intact, and hence there may be little, if any, interference with the central visual acuity.

Whilst it is true that parenchymatous corneitis, due to congenital syphilis, usually attacks both eyes, we must remember that there are exceptional cases where the corneitis is confined to one eye. I have had under observation, during the last three years, a girl, who first came under my care with parenchymatous corneitis of the right eye. The left cornea was never attacked, but on examining the fundus of this eye with the ophthalmoscope, numerous punched out spots, characteristic of syphilitic choroiditis, were seen in the periphery. She had typical Hutchison's teeth, and her mother had a definite syphilitic history. Her elder sister had also had a corneitis, but following the usual type, and attacking both eyes.

Amongst the permanent traces left by a past attack of

acquired syphilis are the results of iritis. When numerous iritic adhesions have been left, the recognition of the condition is very easy from the resulting irregularity of the pupil. But there are numerous cases, which, coming under treatment at an early stage, are cured without any adhesions remaining. Yet, on careful examination, we can tell in most of these cases that the patient has had a previous attack of iritis. On dilating the pupil, and making use of focal illumination, there are frequently seen, on the surface of the lens, little specks of pigment arranged in a circular manner and corresponding to the margin of the iris. These give positive evidence of a past attack of iritis, and indicate the position of previous iritic adhesions, which have yielded to the dilating force of atropine. The recognition of a past attack of iritis is of vast importance in a case of suspected syphilis. It is generally agreed that at least half of all the cases of iritis are due to acquired syphilis. If we can exclude the other most common causes—rheumatism and gout—then the traces of a past iritis may furnish us with a most valuable diagnostic factor in a doubtful case.

Changes in the eye are not infrequently secondary to some general disease, or to disease of some other organ in the body. Hence the observation and proper interpretation of eye symptoms may frequently lead to the diagnosis of a disease hitherto unsuspected, or may supply the requisite additional data for correcting an erroneous diagnosis previously arrived at.

I will select from my case-books three examples which illustrate the very direct bearing of the eye symptoms on general diagnosis.

In October, 1893, a patient was sent to me complaining of a sudden loss of vision in the right eye on the preceding day. On examination of the right eye with the ophthalmoscope, the sudden loss of vision was seen to be due to embolism of the central artery of the retina. On examining the left eye, which the patient assured me was all right, typical albuminuric retinitis was found to be present. The visual acuity with this left eye was very good, and he could read with ease the smallest test types; but I have already called attention to the frequency of this retention of good visual acuity with marked changes at the fundus. On cross-questioning him as to the state of his health, he maintained that he had never felt better. The only symptom that could be elicited was that of late he had to rise frequently during the night to urinate. His urine, on examination, was found to contain albumen, and its specific gravity was 1005. This accounted

for the albuminuric retinitis. On examining the heart, there was a loud systolic murmur, best heard at the apex, which was displaced downwards and to the left. This explained the embolism in the central artery of the retina. The patient was instructed to put himself under the care of his medical adviser at home, who since then has made repeated examination of his urine. He reports that it always contains albumen, that the specific gravity ranges from 1005 to 1014, and that many specimens were found on microscopic examination to contain abundant granular tube-casts. In this case the examination of the eyes led directly to the diagnosis of chronic Bright's disease, and of valvular disease of the heart. It affords an excellent clinical illustration of the fact that chronic Bright's disease is often very insidious in its onset, that it may exist for a considerable time without obtruding itself on the notice of the patient, and that the first symptom may be the occurrence of retinal changes.

Embolism of the central artery of the retina being an occasional consequence of valvular disease of the heart, its discovery at once suggested a careful examination of that organ, and led to the detection of the mitral regurgitation. The absence of cardiac symptoms was due to the establishment of compensating hypertrophy.

In October, 1893, a young woman aged 23 years, unmarried, consulted me about a dimness of vision in her right eye, which she had first experienced only a few days previously. On examination, the pupil of the right eye was seen to be dilated and immobile. No changes at the fundus were visible with the ophthalmoscope. Distant vision was normal, while near vision was very defective; but, with a convex lens of 3·5 dioptries, the smallest test types could be read with ease. Here it was evident there was paralysis of those branches of the third cranial nerve which supply the sphincter of the iris and the ciliary muscle. To such cases the term *ophthalmoplegia interna* has been applied. All the other eye muscles were intact, and the left eye was normal. Clinical experience teaches that, if we can exclude atropine and injury, the cause of unilateral *ophthalmoplegia interna* is nearly always to be found in syphilis. Hence the eye symptoms at once directed investigation into the past history of the patient. During the last two years she had never felt well. She had lost flesh, her skin had become sallow and earthy-looking, and all her friends remarked that she was looking very ill. She had suffered much from headaches of late, and also from what she called "rheumatism," especially of the lower limbs. The pains

in the limbs and headache were worse at night. She had been under medical treatment for some time, but without benefit. The eye symptoms furnished a strong presumption of syphilis, and she was at once put upon mercurial treatment. The remarkable improvement, with cure of the eye symptoms, which speedily followed, confirmed the diagnosis. In six weeks the ophthalmoplegia interna had completely disappeared.

The headaches and pains in the limbs had left her, and have never returned since. The change for the better in her appearance was very striking, and she gained weight rapidly. Here the recognition of the eye symptoms gave the clue to the cause of the general deterioration of health, and to the diagnosis of the true nature of the headaches and so-called "rheumatic" pains. I learned subsequently from the girl's mother that she had had an illegitimate child two years before, and that all her troubles dated from this time.

In the spring of 1892, a child about two years of age was brought from Ayr to the Glasgow Eye Infirmary, on the advice of the medical men, whom the mother had consulted in Ayr. The child's eyes had been all right till three days before admission. When we saw her, there was extreme swelling of the lids of both eyes, so much so that it was with great difficulty that the cornea could be seen and the lids partially everted, so as to examine the condition of the conjunctival surface. The striking peculiarity of the swelling was its board-like hardness, so that it was utterly impossible to evert the lids completely. There was a thin whey-like discharge flowing from the palpebral fissure. On partially everting the lid, the conjunctival surface was seen to be covered with numerous patches of a dirty greyish membrane, so abundant as to be almost confluent. This membrane could only be picked off in little pieces at a time, and left behind a raw bleeding surface. The skin felt hot and feverish, and the temperature was found to be 103° F. On carefully examining the throat and nostrils, no membrane could be seen. The child was admitted and placed in an isolated ward. Within a few days diphtheritic patches could be seen in the throat. The child was then removed to the fever hospital, where she died of diphtheria. Though true diphtheritic conjunctivitis is exceedingly rare in this country, yet it is an important diagnostic point to bear in mind, especially in the prevalence of epidemics, that the conjunctival inflammation may be the first local symptom of the disease.

In many diseases eye symptoms have a special importance, because they are early symptoms, appearing before the disease

is fully developed and assisting us to form a diagnosis, at a period when it would be otherwise impossible to do so. This is especially true of diseases of the nervous system. The Argyll-Robertson pupil in locomotor ataxia affords an excellent example of the value of eye symptoms as an aid to early diagnosis. Here, while the reflex action of the iris to light is lost, the associated contraction on accommodation for near objects is preserved. According to the statistics given by Gowers, this symptom is present in four-fifths of the cases of locomotor ataxia, and this ratio coincides pretty closely with my own experience. What gives it additional value as a diagnostic sign is that it occurs only very rarely in other nervous diseases. I have met with it in general paralysis of the insane and in disseminated sclerosis, but such cases are rare and exceptional. In locomotor ataxia this symptom is very frequently present in the pre-ataxic stage of the disease, when every symptom is of the utmost importance for the diagnosis. Hence, in every suspected case the reflex activity of the iris to light and its behaviour on accommodation, should be examined as carefully as the condition of the knee-jerks.

The value of careful observation of the pupil was much impressed upon me by a case I saw in 1888. I was called in to see a commercial traveller who had taken suddenly ill at his hotel. He was in great agony, suffering from excruciating pain in the epigastric region, which radiated along the lower ribs towards the left side. There was vomiting, which, however, brought no relief. There was slight inequality of the pupils, and it was this fact which induced me to examine the pupillary movements. It was at once evident that there was complete absence of the light reflex, while the contraction on accommodation was preserved. The knee-jerks were then examined, and were found to be completely abolished. There was no ataxia present even on applying the most delicate tests. The patient during the preceding eighteen months had suffered from occasional attacks of severe pain in the epigastric and cardiac regions, which had been treated as acute attacks of dyspepsia. For the last few years he had also suffered from darting pains in the legs, which had been regarded as rheumatic. There was little hesitation in concluding that these attacks of pains in the epigastric and cardiac regions were the gastric crises of locomotor ataxia. The gastric pain had quite disappeared by the following day. The diagnosis of locomotor ataxia in the pre-ataxic stage was confirmed by Dr. Dreschfield of Manchester, whom he con-

sulted shortly afterwards. About a year and a half later I learned from his medical attendant that the ataxic gait had begun to manifest itself, thus confirming the diagnosis. In this case, which could very easily have been mistaken for an attack of acute dyspepsia, the observation of the eye led to a correct diagnosis at a time when the most striking symptom of the disease, the ataxia, was entirely absent.

In examining those movements of the iris, it is necessary to bear in mind a few simple precautions which are too frequently forgotten or neglected. In testing the activity of the iris reflex to light, the patient must be instructed to fix his gaze on some distant object, so as to exclude entirely the contraction of the pupil associated with accommodation. If this precaution be not taken, the patient naturally fixes his gaze on the examiner close at hand, and this very materially interferes with the delicacy of the light test. Again, on testing the contraction of the pupil associated with accommodation, it is necessary to avoid exposing the eye to too intense illumination. If the light be very intense, the pupil will be strongly contracted, and the further contraction on accommodation will only be very slight, and with difficulty observed. Whereas, if the examination be made in subdued light, the further contraction on accommodation will be more vigorous and much more easily seen. Another source of fallacy is that the iris may be immobile, owing to adhesions, the result of a previous iritis. But in these cases careful attention to the colour and brilliance of the iris and to the shape of the pupil will exclude all possibility of error. We must also bear in mind that all the movements of the iris are less active in the aged than the young, and the older the patient the less active must we expect to find them. Many mistakes are made from lack of attention to these simple facts.

Whilst the ophthalmoscopic examination of the fundus frequently gives the most valuable help in the diagnosis of many diseases, it is in diseases of the nervous system that its importance in diagnosis is most evident, since it often affords the first unequivocal evidence of organic disease of brain or spinal cord. The early recognition of an optic neuritis or incipient optic atrophy may prevent the physician from describing or treating as a comparatively unimportant functional disorder a case of grave and progressive organic disease.

Having made it a constant practice to carefully test the reflexes in all cases of optic atrophy that come under my notice, I have been much impressed by the great frequency with which optic atrophy is associated with nervous symptoms ;

and further, that, in a very large proportion of these cases, the preceding symptoms had been regarded as mere functional disorders, or were apparently so trifling that the patient had no recourse to medical advice. There is a large class of cases where positive evidence, in the condition of the eyes and of the reflexes, is found of the existence of grave disease of the nervous system, whilst the patient assures us he is in perfect health apart from his eye symptoms. It is a very common experience to find, along with the optic atrophy, loss of the knee-jerks and the Argyll-Robertson pupillary phenomena, with very frequently a history of shooting pains in the limbs, which have been regarded and treated as rheumatic. In some of these cases ataxic symptoms are present, but in the great majority of those seen in the early stages of the atrophy, ataxic symptoms are entirely absent. Yet the diagnosis of tabes may be confidently given with such a collocation of symptoms, even in the complete absence of ataxia. It is a widely observed clinical fact that, when atrophy of the optic nerve is of early occurrence in tabes, ataxia is generally very slow in development, and, when it does occur, is usually only very slight. In some cases no ataxia appears. Buzzard narrates a case in which the atrophy existed for fifteen years, associated only with lightning pains and loss of the knee jerks. Gowers narrates a case where the atrophy of the discs was complete, and vision lost for twenty years, before the first symptoms of ataxia showed themselves.

Buzzard has recently called attention to the frequency of optic atrophy in disseminated sclerosis. He has found optic atrophy specially valuable in the diagnosis of those atypical forms of disseminated sclerosis, where the characteristic symptoms are but slightly marked. I have frequently seen cases of atrophy associated with exaggerated reflexes, ankle clonus or a tendency to it, and slight paresis of the lower extremities. In some of these cases the increasing weakness of the limbs was the only symptom observed by the patients previous to the development of the eye symptoms, but this had troubled them so little that they had not had recourse to any medical advice. When the typical symptoms are well developed—the tremors, the sensory disturbance and the spastic gait—the diagnosis is easy, but at the outset, when the symptoms are less definite and pronounced, the occurrence of optic atrophy may aid us in recognising the true nature of the disease.

The value of optic neuritis as a symptom of intracranial disease is very great. Hence, whenever any symptoms arise

which suggest a possibility of intracranial origin, such as a headache which does not readily yield to medical treatment, the fundus of the eye should always be very carefully examined. The frequent occurrence of double optic neuritis in cases of cerebral tumour is one of the best known facts of ophthalmology. But it is very frequently forgotten that the optic neuritis is only a transient condition, and that when the patient comes under our observation the neuritis may have subsided and left the discs in a condition of atrophy, a post-neuritic atrophy.

In tubercular meningitis or in syphilitic meningitis when localised at the base, changes in the optic discs, hyperæmia with distension of vessels and optic neuritis, are present in such a proportion of cases as to constitute a very important symptom of these diseases. In a considerable number of cases, the optic neuritis does not occur until late in the disease. The chief symptoms having already manifested themselves, the ophthalmoscopic examination simply corroborates the diagnosis already made from the previous symptoms. But in tubercular meningitis there are cases where the disease begins in a most insidious way, where the early symptoms are indefinite, and where the ophthalmoscope gives very real assistance in the diagnosis, if the discs be carefully watched from day to day during the course of the disease. Out of eight cases of tubercular meningitis in children carefully observed by me, the discs remained normal throughout in four. The ophthalmoscope was of real diagnostic assistance in two of these cases, in which the symptoms up to the discovery of the optic neuritis were not such as to justify a positive diagnosis of meningitis. The antecedent symptoms were headache, rise of temperature, occasional vomiting with constipation. But in children we are all familiar with such a group of symptoms, which disappear on careful regulation of the bowels, simple dietary, and the administration of some simple stomachic remedies. But the recognition of the optic neuritis at once indicated the grave nature of the symptoms, and showed that these were due to intra-cerebral disease, and not to mere stomachic derangement. The speedy occurrence of convulsions and strabismus confirmed the diagnosis, and both cases had a fatal issue.

Garlick, who devoted special attention to this point, narrates that of twenty-six cases watched by him in the Children's Hospital from day to day, he found the discs normal throughout in five, distinct swelling was developed in about half the whole number, increased redness only in a quarter, and in a

few others only distension of the veins. Of these twenty-six cases, the ophthalmoscope was of real diagnostic assistance to him in six.

It is therefore an important clinical fact to bear in mind that in these doubtful cases of insidious onset, and with indefinite symptoms, the careful examination of the fundus of the eye from day to day will frequently be of the greatest assistance to the physician in enabling him to arrive at a diagnosis much earlier than he possibly could from observation of the other symptoms alone.

In the preceding remarks, it has been my object to emphasise and illustrate the following propositions:—

1. That the examination of the eye very frequently affords valuable facts regarding the past history of the patient, in some cases not otherwise obtainable, and often of the greatest importance for diagnosis.

2. That in all cases of doubtful diagnosis a careful examination of the eye should be made as a matter of routine, altogether apart from the occurrence of subjective eye symptoms, since important changes, affording facts of great diagnostic significance, have often taken place in the eye without having caused the patient any inconvenience or discomfort, and therefore not having fallen within the sphere of his consciousness.

3. That the occurrence of eye symptoms often leads to the detection elsewhere than in the eye of disease hitherto unsuspected.

4. That in many diseases, and especially in diseases of the nervous system, the eye symptoms have a special importance, because they are early symptoms, and may enable us to form a diagnosis at a period when it would be otherwise impossible to do so.

ON THE ANATOMY OF FLAT-FOOT.¹

By ROBERT KENNEDY, M.A., B.Sc., M.B.,
Dispensary Surgeon to the Victoria Infirmary, Glasgow.

ALTHOUGH acquired flat-foot occurs so frequently, yet comparatively little has been published with regard to its anatomy. In the surgical text-books its causation is described generally as a yielding of the plantar ligaments, with resulting flattening

¹ Read at a meeting of the Glasgow Medico-Chirurgical Society, 4th May, 1894.

of the internal and lateral arches, and ultimate change in shape of the bones from pressure. These conclusions have in most cases been drawn from clinical examination alone, and that they are scarcely accurate the few dissections which have been made prove. Those dissections which have been published with full details, while agreeing in great part, still leave room for further investigation, as several most interesting points are differently described. Thus, the inferior calcaneo-scapoid ligament is described by von Meyer¹ as being not elongated, while Symington² and others found it elongated.

The foot which I dissected, and which is represented in the plate, was obtained from the *post-mortem* room of the Western Infirmary. It was the right foot of an adult male of average height, and rather over the average body weight. No history with reference to the condition of the foot could be obtained. Both feet were affected, and were well marked examples of advanced flat-foot; but the right was worse than the left. The foot presented the usual characters—namely, flattening of the internal arch to the level of the ground; two well marked prominences on the inner aspect, the larger in front and below the internal malleolus, and the smaller in front and below the first; approximation of the internal malleolus to the base, and of the external malleolus to the os calcis; and rotation outwards of the whole foot. The condition of the muscles was not examined, only the bones being removed.

After the remainder of the soft parts were dissected off, the foot presented the following general characters:—The internal arch of the foot was obliterated, the arch being flattened down, presenting, indeed, a slight convexity directed downwards. The external arch was also flattened, the inferior surfaces of the os calcis and of the cuboid being in contact with the ground along their whole length. There was no appreciable flattening of the lateral arches. The whole foot was slightly rotated outwards. The ligamentous connections of the tarsus were generally lax, the bones being much more movable than in a normal foot.

The alterations in shape and relationship of the individual bones were next noted. One of the most striking alterations was the change in the relative position of the tip of the external malleolus. This was situated considerably in front of its usual position, and was so much depressed that it actually rested upon the os calcis. This result was caused

¹ *Jahresbericht der Medicin*, 1883, I, p. 15.

² *Journal of Anatomy and Physiology*, 1884-85.

chiefly by the altered position of the astragalus, but also partly by the rotation inwards of the os calcis on its long axis. The result of this contact was made evident by the formation of a joint between the tip of the malleolus and the os calcis. On the os calcis, at the point of contact, a well marked concavity existed, and the two contiguous surfaces were covered by articular cartilage. This abnormal joint was pointed out by Mr. John Wood¹ in 1859, and has been found and described since by Hueter, von Meyer, Symington, and Chaput.²

A frequent site of pain in cases of flat-foot is just below the external malleolus, and this is readily accounted for by the abnormal contact between the malleolus and the os calcis, and the crushing of the tissues, which must thereby result, before the complete joint is established. The position of the internal malleolus was also altered, being at a much lower level than in the normal foot.

The tarsal bones which had undergone most change in position and shape were the os calcis, the astragalus, and the scaphoid.

The os calcis was depressed to the level of the base line anteriorly, causing thus the obliteration of the external arch. Its antero-posterior axis was directed more to the inside than normally, and upon this axis it had undergone a distinct movement of rotation inwards, raising thus the external tubercle much from the base line, and directing the articular surface for the astragalus inwards, and depressing the sustentaculum tali. Between the articular surface for the astragalus and the outer margin of the bone there was a considerable flat surface, on which the tip of the external malleolus rested, and which bore the concave facet which has already been mentioned.

The position of the astragalus is of particular interest, as this bone is probably the first to alter its position. Its head was turned inwards and depressed, and formed, therefore, the well-marked prominence in front and below the internal malleolus. This prominence is always well-marked in all advanced cases of flat-foot. By the rotation inwards of the head of the astragalus, the relation of that bone to the articular surface of the scaphoid is greatly altered. Viewed from the inside of the foot, the greater part of the articular surface of the head was visible, not in contact with bone, but gliding on the ligamentous structures, which were removed

¹ *Trans. Path. Soc. Lond.*, 1859.

² *Jahresbericht der Medicin*, 1886, II, p. 374.



FLAT-FOOT.

- A.** Head of Astragalus. **B.** Tuberosity of Scaphoid.
C. Articulation between External Malleolus and Os Calcis.

in the dissection. The articular cartilage of this part of the head was eroded at several points, a condition which has been noted by others, and thought to be due to the pressure against the ground. The position and condition of the head is clearly visible in the lateral view shown in the plate. The ridge, which in the normal astragalus separates off the small part of the articular surface, which glides on the ligament, was obliterated, the head being uniformly rounded. Only a small portion of the outer part of the head was in contact with the scaphoid. The internal rotation of the astragalus was, however, so complete that the external surface of the neck came into contact with the scaphoid, and the articular cartilage was extended along this aspect of the neck, forming an articular concavity of circular shape, measuring 19 mm. in diameter. The articular surface for the scaphoid was thus internally convex, as usual, but externally concave, the concavity being a newly-formed articular surface. Another abnormal articular surface was found on the inferior surface of the bone, situated just in front of the larger inferior articular surface, and continuous with it, but marked off by a prominent ridge. This surface measured 9 mm. antero-posteriorly, and about 20 mm. laterally. This surface, which was described by Symington, is the result of the contact of this part of the bone with the calcaneo-astragaloid interosseous ligament, caused by the internal rotation of the astragalus. In addition to the internal rotation of the astragalus, the whole bone appeared displaced inwards, an appearance which is due to the flattening of the arch, and to the rotation outwards of the foot.

The scaphoid was considerably altered both in position and shape. The bone had undergone a movement of rotation inwards on its antero-posterior axis, causing the dorsal surface to be directed inwards, and the tuberosity to project downwards and to come into contact with the ground. The tuberosity thus becomes more prominent than usual, and forms the lower of the two abnormal prominences visible in advanced cases of flat-foot. The antero-posterior measurement of the bone was greatly reduced externally, while internally it retained its usual dimensions. Thus the bone presented a wedge, the apex of which was directed upwards and the base downwards, resting on the ground. The articular surface for the head of the astragalus was altered in conformity to the alteration on the head and neck of the astragalus. It presented thus a concavo-convex articular surface. The inner part was concave, and much more so than in the normal scaphoid, and articulated with the small part of the outer

aspect of the head of the astragalus, while the outer part presented the convex surface, which articulated with the abnormal concave surface on the outer side of the neck of the astragalus.

The other bones of the tarsus had not undergone any marked change, with the exception of the internal cuneiform, which was depressed to the level of the ground.

The condition of the ligaments is of great importance. As already mentioned, the individual bones were less firmly bound together than in the normal foot. The tibio-fibular articular surface was not more movable on the astragalus than usual, the internal lateral ligament and the anterior band of the external being quite unaltered, but the mobility in the calcaneo-astragaloid joint was extreme. This joint was so movable that the tip of the external malleolus could be raised from its contact with the os calcis to its normal height, the movement being accompanied by restitution of the head of the astragalus to its normal position, and by the partial restoration of the internal arch of the foot. The external lateral ligament had its middle band destroyed as a result of the pressure of the fibula against the os calcis, but the anterior and posterior bands were quite unaltered. The inferior calcaneo-scaphoid ligament is that which is usually described as being elongated. In the dissection this ligament was not elongated. It was measured from the plantar surface, and was found to be 20 mm. in extreme length, which, according to the usual measurements given for normal feet, is a short one. The external calcaneo-scaphoid ligament was not appreciably elongated, but the astragalo-scaphoid was much elongated and hypertrophied at its inner part, where it covered the head of the astragalus.

The two tarsal ligaments which were most distinctly elongated were the external calcaneo-astragaloid and the calcaneo-astragaloid interosseous. Judging from this dissection, these are the ligaments which are chiefly concerned in the production of the deformity. The weight of the body, communicated through the tibia to the astragalus, gives that bone a tendency to move in a direction which would bring its head downwards and inwards. This movement is chiefly resisted by the calcaneo-astragaloid interosseous ligament, which becomes tense. The yielding of this ligament allows the astragalus to glide inwards, the greater part of the head ultimately leaving the scaphoid. As a result of this the astragalo-scaphoid ligament is much stretched at its inner part, and the distance between the scaphoid and the articular

surface on the upper aspect of the astragalus is greatly reduced. In the specimen this distance was reduced to a few millimetres. As a result of this the arch flattens down, not by an elongation of the plantar ligaments, but by the removal of the support of the head of the astragalus, the keystone of the arch. When the calcaneo-astragaloid interosseous ligament is divided in a normal foot, and pressure brought to bear on the astragalus through the tibia, the head of the astragalus glides inwards and downwards distinctly more than before the division of the ligament was made. Its further movement is prevented by the tension of the middle band of the external lateral ligament, on dividing which the only obstacle to the complete production of flat-foot is bony contact between the astragalus and the surrounding bones, and in a case of incipient flat-foot this would, in process of time, produce absorption of bone, and permit of the advance of the deformity.

GLASGOW ROYAL INFIRMARY, 1847-51.

THE interesting exhibition of "Old Glasgow," recently opened, contains some portraits of members of the medical profession who did good work in their day, but are apt, in the hurry and bustle of modern times, to be well nigh forgotten. It is now a hundred years since the Glasgow Royal Infirmary was opened on a historic site. Within its walls physicians and surgeons have come and gone, and a few recollections of those who acted there in my student days may remind the older readers of the *Journal* at least of the men who helped to make the Glasgow School what it now is.

A detailed history of the Infirmary up till 1832 was published by Dr. Moses S. Buchanan, and abounds in information as to its early rise and progress, giving also valuable statistical tables, and a full list of those who in various capacities had held the offices attached to it.

In 1849 I became a resident in the fever department, the physicians being Professor Wm. Thomson and Drs. M'Gregor, Weir, and Ritchie, while Mr. Watt and Drs. Lawrie, Andrew Buchanan, and Hunter were the surgeons.

Dr. M'Gregor, under whom I served, was a tall, vigorous, and enthusiastic Highlander, and nothing could exceed his kindness to the patients under his care, especially if they were north countrymen. A large number of those in the

small-pox wards were Celts, and, from his knowledge of Gaelic, he was the only member of the staff who was able to elicit accurate details of their symptoms and histories. He was a good chemist, and for many years gave instruction in practical chemistry in a small dingy room in College Street. The laboratory was but scantily supplied, and it was no uncommon occurrence for the teacher to send out his assistant in the course of a lecture for some needed ingredient, the supply of which had fallen short.

Dr. M'Gregor pursued with indefatigable industry a series of observations on diabetes, a disease of which he was for long considered a high authority. In the fever wards he freely used stimulants, and believed implicitly in the value of calomel and opium in inflammatory affections. He died at a comparatively early age, and was sincerely mourned by the profession, as well as by the members of the Gaelic Club, at whose gatherings he was conspicuous by his skilful performance of the sword dance.

In those days a clerk paid no fee as long as he worked in the Fever House, the risk of contagion being, curiously enough, taken into account.

Dr. William Thomson, to whose wards, after eight months with Dr. M'Gregor, I was transferred, became Professor of Practice of Medicine in 1841. He was a man of wide culture, intimately acquainted with general and professional literature, of polished and dignified manners. His health was not robust, and he never engaged in private practice during his residence in Glasgow. To his Infirmary patients he was courteous and gentle; and he paid special attention to cardiac, renal, and hepatic diseases. He was the author of a work on diseases of the liver and of some interesting papers on the affections to which coal miners are liable. He had little faith in remedies, or, at all events, seldom employed any but the most simple, with the exceptions of elaterium and digitalis when indicated. In cupping, however, he had great faith, and the only time I opened a vein in the wards of the Infirmary was in a case of acute rheumatism—with a most satisfactory result as far as the relief of pain.

The main characteristics of Dr. Thomson's practice, however, was his horror of mercury and his abstinence from its employment—the result, no doubt, of his father's teaching, Dr. John Thomson having been an inveterate opponent of the use of the drug in syphilis. On every suitable opportunity he expressed his opinions on this subject most strongly. Dr. Thomson, having taught pathology in Edinburgh, took much

interest not only in the *post-mortem* examinations of those who had died under his own care, but also in any others which occurred in the medical wards, and noted carefully the results.

As a teacher he failed to acquire popularity, mainly from an absence of method in the arrangement of his lectures, but he took the warmest interest in his students, and gave every assistance in furthering their aims.

It may be added that he was of great service to the University as Clerk of the Faculty—a body now merged in the Senate—and he edited some of the volumes of the *Munimenta*, a work of much interest and value.

From a quiet but pleasant, and, to myself, most valuable residence in the medical wards, I was transferred in 1851 to the more stirring scenes of surgery, and nothing could be stranger than the contrast between the placid Thomson and the restless and energetic Lawrie, then engaged day and night with the demands of the largest practice in Glasgow.

I had known Dr. Lawrie all my life. He lived opposite my father's house in West Nile Street, and when our family removed to West George Street, then the habitat of the West End profession, he shortly afterwards became our next door neighbour. The first bond of union between us was a lively interest in horses, and nothing could exceed the care Lawrie took of his stables. He delighted in buying a cheap animal out of condition, and gradually feeding and grooming it till it became not only serviceable but valuable. His activity was marvellous. Never at rest, he got through an enormous amount of work, even at times when he was suffering from the effects of illness contracted in India, and which ultimately carried him off. He was devoted to his Infirmary work. He had been a resident in it, and firmly believed and proclaimed his belief that in no country was there a hospital presenting such opportunities for the study of disease, and especially of surgery. To act as Lawrie's assistant was no sinecure. In addition to the ordinary work—very heavy, especially during the intaking week—he had always some additional labour to impose—collecting information; frequently formidable statistics to be incorporated in papers he was writing; keeping yourself on the outlook for any interesting results of pathological examination; hunting out patients who had left the hospital to ascertain how they were progressing; and other kindred objects engrossed all one's leisure time. In fact, he was an enthusiast, and, like most of the class, frequently the results of his work were disproportionate to

the time spent on acquiring them. He was a skilful, rapid operator.

During my term of office I twice acted in defiance of the rules of the house—once, in removing an arm without his sanction. His righteous anger was great, but soon passed off.

When Dr. Burns was drowned in the "Orion," the unanimous voice of the profession secured him the University Chair. But time and poor health had begun to tell upon him and, although more successful than many would have been under the conditions of an enormous practice, he had not the leisure which is necessary for full success as a teacher.

At length, his health failed rapidly till the end came. Those of your readers who remember and knew him will never forget the earnest, restless surgeon, and the kind, loving man.

Although a resident came almost exclusively in contact with his chief, he necessarily saw and heard much of his colleagues. Lawrie and Andrew Buchanan had been close friends from youth, lived together in the Infirmary, and finally were associated both there and in the University. They believed thoroughly in each other. Dr. Buchanan admired Dr. Lawrie's operative brilliancy. Dr. Lawrie knew the diagnostic powers of his friend, as well as his ingenuity and resource. When the rectangular staff was perfected he at once adopted it and urged its merits, which, curiously enough, save in Glasgow, have never been fully recognised. So, too, it may be said of Dr. Buchanan's physiological labours which, although swamped by modern progress, were ingenious and scientific.

As regards surgery, it may be added that anæsthesia was unknown when I first walked the wards, and I never can forget the enthusiasm with which its introduction was hailed.

I may close these brief recollections for the present by bearing testimony to the splendid services rendered the Infirmary by Dr. Steele, who afterwards was appointed Superintendent of Guy's Hospital. Under his skilful management the whole Institution improved immensely, and the improvement has gone on continuously till we can boast of a very high standard of efficiency. Of my fellow residents, Dr. Perry, late President of the Faculty, and Dr. Wallace, of Greenock, alone survive. The former, it is needless to say, maintains his father's high reputation, while the latter, in addition to his professional acquirements, is still able to brighten the meetings of the Western Medical Club by his melodious voice and cheerful enjoyment.

c.

CORRESPONDENCE.

THE TREATMENT OF DIPHTHERIA BY REMOVAL OF THE TONSILS.—A CORRECTION.

To the Editors of the "Glasgow Medical Journal."

SIRS,—In my paper on the above subject, published in your issue of July of this year, I inadvertently made an inaccurate quotation, which I desire to take the earliest opportunity of correcting. At p. 20, Dr. Lennox Browne is referred to as having first advocated excision of the tonsils, in the acute stage of diphtheria, *ten* years ago. My information was gathered from the fourth edition of his book, but I have since learned that his advocacy dates back other five years, as may be found by consulting the *Transactions* of the Medical Society of London for 1879, p. 200.—Yours faithfully,

WILLIAM WATSON.

GLASGOW, 21st August, 1894.

CURRENT TOPICS.

THE INTERNATIONAL OPHTHALMOLOGICAL CONGRESS.—The International Ophthalmological Congress is now a thing of the past. The meeting at Edinburgh was in the main a great success, not perhaps that it has added much to our stores of ophthalmic knowledge, but it afforded ample opportunities for enthusiasts of all nationalities in this branch of medicine to meet and encourage one another, and to stimulate each other by an account of their work. Moreover, there was plenty to do for souls less enthusiastic, for those who regard every congress as an "occasion," who look in at the meeting perhaps once, but who never miss a dinner, or garden party, or luncheon. Edinburgh put her best foot foremost to entertain her guests, both publicly and privately, and despite the cold northern skies and typically wet weather, her guests enjoyed themselves.

On the first day there was the election of office-bearers. Dr. Argyll-Robertson was elected President, Mr. Swanzy and Mr. Power were appointed Vice-Presidents, Mr. Berry under-

took the duties of General Secretary, and Dr. Parent (for France), Dr. Hess (for Germany), and Dr. Fergus (for English speaking races), were elected Secretaries. A large number of gentlemen of different nationalities were elected Honorary Presidents. Amongst the names we were glad to see that of Dr. Reid—a fitting tribute to a life spent in the pursuit of the higher departments of ophthalmic study, rather for the sake of the science than for anything else.

As for the proceedings themselves little can be said. For the most part it was “cauld kail het again.” Unquestionably it was most interesting to see and hear Leber, probably the most outstanding eye pathologist living, but he had only some further observations on the effects of small pieces of copper in the eye. His views are, or at least ought to be, well known to every ophthalmic student, not to say practitioner.

The discussion on cataract extraction was nothing less or more than a repetition of the *pros* and *cons* as regards combining the operation with an iridectomy or performing it without one altogether. We were glad to find that the idea of a preliminary iridectomy was never once mentioned. For many a year we have preached against this operation, and it is satisfactory to find that it is so far obsolete as not to be mentioned on this occasion.

The ruling of the President in one particular seemed hard. Swan-Burnett on the centradian would have been quite as new as a good deal of what was said and read. Yet the President refused to hear his communication because his views have already been published. Perhaps the Congress did not miss so much by not having the paper itself, as by not having the discussion to which it must have led. With such undoubted authorities as Swan-Burnett, Stevens, and Percival, on the one hand, and on the other many gentlemen of great distinction who do not believe at all in their views of treatment, a most profitable discussion must have ensued.

The most striking communication was one by Dr. Mann of the physiological department of Edinburgh University, on the effect of stimulation on nerve centres. When the transactions are published we shall try to give a synopsis of it to the readers of the *Glasgow Medical Journal*.

Amongst the exhibits by ophthalmic surgeons we noticed some beautiful micro-photographs by Dr. Reid.

Altogether, as already said, the Congress was a great success. Those, however, who are arranging for the next one at Utrecht, would do well to fix certain subjects for certain days. For example, let one day be for (say) muscular anomalies, another

day for another particular subject, and so on, and only the last day for miscellaneous work. This was the plan adopted in the Ophthalmic Section of the British Medical Association at Glasgow, and worked remarkably well.

Those who were at the dinner will not readily forget the beautiful, even pathetic speech of Dr. Meyer, in making the reply for France to the toast of "foreign colleagues." It was full of the true scientific spirit, the unity of the human race in the search for knowledge.

Both of the Royal Colleges entertained guests, and Glasgow folk were specially pleased to find in the distinguished President of the College of Physicians an old and much respected friend—Professor Gairdner.

F. F.

BRITISH MEDICAL ASSOCIATION.—The 62nd Annual Meeting was held at Bristol from the 31st July, 1894, till the 3rd August. This was the third occasion on which the Association had met at Bristol, the first having been in 1833, shortly after the foundation of the Association, when it consisted of only some 400 members, there being now 18,000 on the Roll. The President was Dr. E. Long Fox, who delivered an address on the "Medical Man and the State." The address in Medicine, "On the Nature and Treatment of Influenza," was delivered by Sir T. Grainger Stewart; and that in Surgery, "The Art of the Surgeon," by Mr. Greig Smith.

ROYAL HOSPITAL FOR SICK CHILDREN.—Dr. W. J. Fleming and Professor Wm. Macewen having recently resigned their appointments as surgeons to this Hospital, Mr. T. K. Dalziel and Mr. R. H. Parry have been appointed to the vacant offices.

REVIEWS.

The Student's Handbook of Medicine and Therapeutics. By ALEXANDER WHEELER. Edinburgh: E. & S. Livingstone. 1894.

MEDICINE and therapeutics are usually regarded as subjects of such considerable range and extent that few physicians, we think, would have the courage to deal with them, even in an elementary form, in a small volume of less than four hundred pages. But Mr. Wheeler appears to have had no hesitation in

imposing upon himself this task, and he now regards himself as the friend and benefactor of the medical practitioner and student. As far as we can claim to speak on behalf of these, we feel that Mr. Wheeler's favours are still to come. But medicine and therapeutics have not exhausted Mr. Wheeler any more than he has exhausted them. He has found space in his pages to suggest to "the heads of our profession" that they should "abstain from dogmatically expressing any definite opinion on a subject *sub judice*," to remark upon the injustice of examiners, and to lament "that physiological facts are of a fleeting character." These criticisms we hope will reach the proper quarters, and produce repentance and amendment.

Mr. Wheeler regrets that the recently qualified man is so "impractical," whatever that may mean. The cause, he says, is not far to seek. The student's day, it seems, "is largely taken up in listening to theories, brilliant and fascinating no doubt, but not always correct or profitable." Naturally the poor fellow "by evening time is bewildered or disheartened." But his troubles have not yet ended. He has now to wade through the "comprehensive descriptions" of "exquisite and complete text-books"—to find, alas! that there is little time left for ward work. So little, we fancy, that in most cases the weary student goes to bed! But how different will be his lot if he will only select a text-book which is certainly not comprehensive, though we admit it contains some statements that are complete (but not exquisite) nonsense. The student will then, it appears, be able to "digest the main features of the various diseases in the most concise manner," and can "verify at the bedside the statements he has read." This is indeed an excellent discovery, but where is the bedside at which the student can "verify" the following "features of disease:"—*Embolism* of the femoral vein; the anginoma form of scarlet fever; hæmorrhages from the sub-conjunctivæ; *artenoid* cartilages; *new skin* in scarlet fever; a parthognomonic symptom; ascetic fluid; delatation of the heart; *intercranial* affections; *discolouration* of the clot; retraction of serum; and fibullar twitchings of dying or exhausted muscle. Surely these be clinical curiosities. Mr. Wheeler has other extraordinary facts to place before his readers. Lysis is recovery of the patient with slight exacerbation of fever; hemiplegia, paralysis of the face, arm, and leg of the opposite side; concussion of the brain is indicated by insensibility, compression by total insensibility, and "diffuse irritation" by increased insensibility; heredity, as a factor in the causation

of gout, is curiously developed in the grandchildren"—whose grandchildren we are not informed. In one of his chapters Mr. Wheeler frankly remarks, "delirium is such a common complication, we may take it here." During the perusal of his book, we feel that we might "take it" almost anywhere. We must really protest against the suggestion that such a volume as this is a handbook of therapeutics. There is, it is true, a short section dealing with the treatment of each disease, but for the most part this consists of little more than an enumeration of the medicinal agents more or less commonly employed. It is quite unusual to get any suggestion or direction concerning dosage. One therapeutic gem we venture to present to our readers. It will indicate to them the occasional magnificence of Mr. Wheeler's style. A patient with Addison's disease, we read, must be treated as a "rare and valuable exotic plant." It is somewhat surprising to find that this, according to Mr. Wheeler, comprises a course of "arsenic, phosphorus, iron, strychnine, &c." We are convinced that the rare and valuable exotics that adorn the editorial sanctum will not put up with this treatment, and respectfully, but firmly, we decline the experiment.

Mr. Wheeler is evidently convinced that he has inaugurated quite a new departure in the writing of text-books on medicine. This we can scarcely allow. But we can assure any rivals who may contemplate entering the field that, whilst it may be comparatively easy to produce a book as poor and weak as Mr. Wheeler's, it will need some considerable effort to write a worse one. The book, indeed, is manufactured on a simple and well known plan. Purchase or borrow the usual text-books on medicine; select from these a number of facts, and arrange in paragraphs; perpetrate a preface, which sign in large capitals—THE AUTHOR. The simple public will always respect these capitals. The reviewer, however, is not so easily satisfied. And he must be allowed to express his dissatisfaction when the selection and arrangement of facts exhibit little discretion or judgment, when the style is slipshod in the extreme, when the elementary rules of English composition are constantly outraged, and when the author fails to conceal the admiration with which he contemplates his own efforts.

Mr. Wheeler considers he has rendered the perusal of "voluminous works" by the student no longer necessary, and offers instead what he calls "a synopsis of anatomy, or physiology, or both," such signs and wonders as we have already presented to our readers, a pretended rational and systematic

arrangement of causes and symptoms of disease, and various tables accurately copied from other authors. One of his objects is to save time. He is more likely, we believe, to shorten life.

It is, we feel, high time to take a decided stand against books of this type, and to speak of them in plain and decided terms. The duty is not a pleasant one; but an attempt must be made to check the inordinate vanity which must see itself in print, and will not submit to the discipline necessary to produce good and useful work. Mr. Wheeler, we quite admit, is not the only offender, and to such consolation as this affords him he is welcome. We shall deal with his compeers as we have opportunity. Probably he may be unwilling to accept counsel from us; but, as he tells us in his preface he is a "tutor of large experience," we are encouraged to anticipate that he believes in the virtues of the whipping-post.

Formulaire des Medicaments Nouveaux. Par BOCQUILLON-LIMOUSIN. Paris: J.-B. Baillière et Fils. 1894.

THIS is the fifth edition of this work, containing an account of some 450 drugs, forming a sort of extra-official pharmacopœia, somewhat on the lines of Martindale and Westcott, but, in quoting authorities, the author does not give references.

Hydatid Disease. Vol. II. By the late JOHN DAVIS THOMAS, M.D. Lond., F.R.C.S. Eng. *A Collection of Papers on Hydatid Disease*, edited and arranged by ALFRED AUSTIN LONDON, M.D. Lond. Sydney: L. Bruck. London: Baillière, Tindall & Cox. 1894.

THE first volume of this interesting work, published in 1884, was favourably reviewed in the *Glasgow Medical Journal*, July, 1885, at p. 47.

It was the late author's intention to have brought out a complete treatise on the subject in 1890, but owing to failing health this had to be abandoned. Since his decease, therefore, the materials for the proposed work have been gathered together, carefully arranged by his late partner, Dr. London, and are now published in the form of a second volume.

The subjects dealt with concern hydatid disease as it affects the various abdominal and thoracic organs, the brain and spinal cord, the bones, muscles, fasciæ, &c., and the descriptions

are concise and clear. A comprehensive chapter on the operative treatment of hydatid disease in general closes the volume.

To those specially interested in this field of research the present volume will be of much service, mainly as a summary of published cases, and as a record of work done. The references are full, and as far as we have been able to test them correct.

Congenital Affections of the Heart. By GEORGE CARPENTER, M.D. London: John Bale & Sons. 1894.

THIS is simply a series of demonstration lectures delivered to students at the Evelina Hospital for Sick Children, and must not be regarded as a monograph or anything of such a serious nature. As a short *résumé* of the subject it has a distinct value, and may be read by all students with advantage.

It opens with a short synopsis of the development of the heart and larger blood-vessels. This is followed by a concise but tolerably complete description of the various congenital cardiac affections. No serious attempt is made, however, to deal with them, from the etiological point of view. The symptoms and signs, physical and stethoscopic, are reviewed clearly and fully, and some common sense remarks are made on prognosis and treatment.

A feature of this brochure is a list of twenty-two "undiagnosed" cases; these illustrate the points dwelt on in the preceding chapters. The cases are detailed clinically, and from the data given, the reader is requested to form the diagnosis. This reversion to school days is commendable as it is refreshing.

Cancer, Sarcoma, and other Morbid Growths Considered in Relation to the Sporozoa. By J. JACKSON CLARKE, M.B. Lond., F.R.C.S., Lond. London: Baillière, Tindall & Cox. 1893.

THE papers read by the author before the Pathological Society of London during the session 1892-93, as well as a reprint of articles which appeared in the *Medical Press and Circular*, comprise this volume.

As Mr. Jackson Clarke's papers have already met with much lively criticism at the hands of those who are in the position of being able to judge best of their merits, and as these criticisms have already appeared in our medical journals, it

is not the intention of the present reviewer to attempt a critical analysis of the observations and ideas recorded in these ninety-seven pages.

Any contribution that seeks to throw light on a dark subject is naturally welcome, and as such this volume may be regarded. Whether it will prove, to borrow the author's metaphor in his preface, a guiding star, a warning beacon, or a will o' the wisp, time alone will prove. We would merely say, that, for the present, no one is in a position to dogmatise regarding the precise nature of the now familiar "cancer bodies," and that our acquaintance with them as such has been too short to allow of any positive assertions regarding causation. Our attitude must still be for some time that of close observers, active experimenters, and cautious recorders of facts.

The Healing of Rodent Cancer by Electricity. By J. INGLIS-PARSONS, M.D., M.R.C.S., M.R.C.P. London: John Bale & Sons. 1893.

SOME years ago the author reported in the *British Medical Journal* (27th April, 1890) three cases of cancer of the breast, and one case of cancer of the cervix, treated by means of electricity. He has recently applied this method, already described, to the treatment of rodent cancer, and records, in the small volume before us, other four cases, the results in which bear out the title of this "monograph."

The pathology, symptomatology, diagnosis, and treatment, are somewhat incompletely outlined. Then follows a long and unnecessary chapter on electrophysics, before the actual mode of treatment employed by the author is detailed. This is given clearly and without ambiguity, and its results in the four cases recorded seem satisfactory, as far as temporary relief is concerned.

Hernia: its Palliative and Radical Treatment in Adults, Children, and Infants. By THOS. H. MANLEY, M.A., M.D., Surgeon to the Harlem Hospital and the Fordham Hospital, New York. London: F. J. Rebman. 1893.

THIS volume represents the effort of its author to set forth, with sublime indifference to the rules of syntax and orthography alike, the conflicting and erroneous conclusions at which he has arrived on the subject of hernia, and the facts (?) on which these are based.

We do not propose to seriously discuss it. To do so would be to delay by so much its return to that obscurity from which it should never have emerged, and in which it will assuredly speedily find refuge.

When its author has attained to some knowledge of the main facts in the anatomy and pathology of hernia, and of the rules of punctuation, composition, and spelling proper to the English language, he may possibly write a readable book on hernia. With such acquired knowledge he is hardly likely, we venture to think, to attempt the emendation of the present one.

Edinburgh Hospital Reports. Edited by G. A. GIBSON, M.D., D.Sc.; C. W. CATHCART, M.A., M.B.; JOHN THOMSON, M.D.; D. BERRY HART, M.D. Vol. II. Edinburgh and London: Young J. Pentland. 1894.

THIS is a book of varied interest. It is replete with valuable and suggestive contributions in all the different departments of medical science, so that, whatever be the affinities of the reader, he need be under no apprehension that his mental pabulum has been neglected. The articles are contributed for the most part by present members of the Edinburgh Medical School—by former members in a few instances. While in works such as the present, recording in the main the personal experience of the writers, there is inevitably a tendency to dogmatise unduly and to construct far-reaching theories on a somewhat slender and insecure basis of facts; on the other hand the personal element which is introduced helps in large measure to command the attention and sustain the interest of the reader.

The opening chapter is a contribution from Dr. Gairdner—"Edinburgh Royal Infirmary in the 'Fifties," being the substance of an address delivered before the Royal Medical Society of Edinburgh in October, 1893. It is written in a delightfully reminiscent vein, and is the more interesting from the fact that, from Dr. Gairdner's long and intimate connection with the subject of his paper, it necessarily partakes largely of the nature of an autobiography.

An excellent article, from the clinical standpoint, is that by Dr. John Wylie. It is in the main a study of the different forms of abdominal tumidity associated with obstruction of the intestinal tract at different levels. Dr. Wylie calls special attention to the state of "rigid spasm" into which, in many cases of chronic obstruction, the whole tract above the seat of

stricture is at intervals thrown, so that at these times, through the generally emaciated abdominal parietes, the individual coils may be seen standing out in bold relief. This condition of wide-spread and rigid spasm, as distinct from the peristaltic movements in the hypertrophied coils immediately above the seat of the lesion, is not a point which has been insisted on by any of the writers on abdominal obstruction. Its value, when present, as an aid in diagnosing the seat of the lesion, need not be emphasised. A fitting supplement to Dr. Wylie's paper is presented in that of Dr. R. A. Fleming, who attacks the difficult problem of abdominal diagnosis from another side, and cites several cases in which, by the process of mapping out the distended viscus, the combined method of percussion and auscultation was instrumental in guiding to the seat of stricture. We should think, however, that, to gain reliable information from auscultatory percussion as applied to distended bowel, much practice and a highly-trained ear are essential, so many are the possible sources of fallacy. These two papers, more especially that of Dr. Wylie, are of interest to physician and surgeon alike.

There are two contributions by Dr. R. F. Leith. The first is an elaborate pathological investigation of a case of actinomycosis of lungs, liver, and colon. The very varied appearances assumed by the fungus and the surrounding tissues are described in great detail, and the general result of Dr. Leith's researches is, in the main, in harmony with those of former investigators. A number of excellent plates illustrate the appearances observed. Dr. Leith's second paper is a searching inquiry into the much debated question of the etiology of acute perforating ulcer of the stomach. He adduces three cases where the pathological appearances strongly support the view that, in some cases at least, the initial lesion is to be found in a chronic endarteritis, affecting the principal afferent vessel of the affected area, thus leading to a gradual impairment of its vitality.

A number of cases of infrequent forms of cardiac disease are recorded by different writers. From amongst these, the article by Dr. James Mackenzie on tricuspid stenosis may be singled out as an instance of thorough and valuable clinical work.

A number of interesting papers on surgical subjects makes up the greater part of the second half of the volume. Mr. John Duncan warmly advocates the merits of the electrolytic treatment of vascular tumours. In the treatment of aneurysm by this means, Mr. Duncan is convinced that the instrument

of permanent cure is, not the clot formed by the coagulation of the blood, but the plastic exudation educed by irritation of the vessel wall. If we mistake not, this was the view put forward by Dr. Macewen in his forcible demonstration of the superiority of white over red thrombi in procuring obliteration of the sac. The requisite degree of inflammation Dr. Macewen secures by manipulation with pins, Mr. Duncan by cauterisation of the vessel wall through the medium of electrolysis.

It is unnecessary further to detail the contents of the book ; but, in our opinion, the time occupied in its perusal will be well spent indeed. Almost every article is readable, many are of high merit, and the volume as a whole is stamped as the product of a healthy and vigorous medical school. The idea of an annual volume of hospital reports seems to us a happy one. Apart from the intrinsic value which such reports possess, it must help to stimulate and concentrate the energies more especially of the younger men, as well as to encourage a spirit of *camaraderie* among those who are working for a common end—the increased reputation of their common school.

Transactions of the American Surgical Association. Vol. XI.
 Edited by DE FOREST WILLARD, M.D. Philadelphia: Wm. J. Dornan. 1893.

THIS volume contains the papers read, with reports of the discussions which followed, at the last meeting of the Association. To readers of the *Annals of Surgery* most of the papers will be already familiar as having appeared in its pages. They comprise the following:—

Senn, On a New Method of Fixing Compound and Ununited Fractures.

Warren, On Hypertrophy and Degeneration of Cicatricial tissue.

Richardson, On the Surgery of the Gall-Bladder.

Nancrede, On the Treatment of Deep Aneurysms.

Gerster, On the Surgery of the Rectum.

Park, On Operations for Malignant Polypus of Base of Skull.

White, On the Surgery of Enlarged Prostate.

Park, On the Bacillus Coli Communis.

Park, On the Surgery of Meckle's and the Gasserian ganglions.

Park, On Primary Sarcoma of Tonsil.

Mears, On Naso-Pharyngeal Growths.

Deaver, On Appendicitis.

Barton, On Appendicitis.

Wight, On Old Injuries of the Elbow.

Millard, On Spinal Injury.

Mixter, On Dislocations of Semilunar Cartilages.

Gaston, On Pyæmia.

Burrell, On Anthrax.

Morton and Hunt, On Cystic Growth in the Lower End of the Femur.

Miles, On Gunshot Wounds of the Intestines.

Warren, On Congenital Umbilical Hernia.

Willard, On Cholecystectomy.

The papers and contributions are, of course, of very varied merit. Perhaps those of greatest interest are that by Senn on his method of fixing fractures, that by White on the surgery of the prostate, that by Park on the bacillus coli communis, and those by Deaver and Barton on appendicitis.

We compliment the editor on the way in which he has accomplished his work, and we do so the more heartily as it is not often we are able to compliment the editor of an American medical work on an absence of such crudities in composition and errors in orthography as we have frequently called attention to in these pages, as disfiguring much of our Transatlantic professional literature.

The volume contains a list of the members of the Association, with their various titles, the perusal of which demonstrates that in the United States there are at least a few cities in which it is less easy than in Glasgow to find a medical man who is not "professor" of something or other.

The index is well prepared, and the illustrations and type are excellent; and the work, with its predecessors in the series, forms a very useful surgical reference on many points.

Verhandlungen der Berliner Medicinischen Gesellschaft aus dem Gesellschaftsjahre, 1893. Herausgegeben von dem Vorstande der Gesellschaft. Band XXIV. Berlin, 1894.

ALTHOUGH perhaps a less generally interesting and comprehensive tome than its immediate predecessor (see review, *Glasgow Medical Journal*, vol. xl, p. 223), the twenty-fourth volume of this Society's transactions is worthy of attention, as containing much that is valuable and suggestive.

A tabulation of the titles of the papers read, and a list of the various cases shown, is quite out of place here. All that

is aimed at is to indicate those of outstanding merit or interest.

Amongst the more important of the many papers, we would particularly single out, as well worthy of perusal, a contribution by Rudolph Virchow, in which he discusses enteric fever and intestinal affections generally, in their relation to the new system of drainage adopted in some parts of Germany; a paper by Liebreich on cholera, regarded from the bacteriological standpoint; and several communications by Lassar on dermatological subjects.

A short paper by Prof. Gluck on the diagnosis and therapeutics of malignant tumours of the larynx; another by Arendt on the operative treatment of chronically inflamed uterine appendages; and a somewhat lengthy historical and technical lecture by Theodor Landau, on the total extirpation of the uterus, deserve mention.

Paul Guttman contributes a paper on methylenblue in the treatment of malaria; Gerhardt on syphilis and the spinal cord; while Max Nitze, in a well illustrated article, deals with the subject of photography of the urinary bladder.

The above must serve to give one an idea of the great variety of subjects dealt with and discussed at the meetings of this excellent Society.

Deaf-Mutism. By HOLGER MYGIND, M.D., Copenhagen.
London: F. J. Rebman. 1894.

THIS is a book which we heartily welcome not only for its intrinsic value, but because it deals with a subject which has been practically ignored by the medical profession in this country. In an introduction of considerable length, the author deals with the statistical department of the subject, and although facts are lucidly set forth, one regrets to find hardly any reference to dates later than the census of 1881.

The main body of the book is divided into four chapters. The first deals with etiology and pathogenesis. The subject of heredity very properly occupies a prominent place. Dr. Mygind thinks deaf-mutism hereditary, and we are prepared to admit this conclusion without such a complicated process of reasoning as that through which he conducts his readers. We regret to notice no reference to Mr. Graham Bell's work—by far the most important—on this subject. In discussing the causes of acquired deafness, Dr. Mygind rightly gives the first place to brain diseases, and the second to measles, scarlet fever, and the other acute infectious diseases.

The second chapter is the best in the book. It deals with the morbid anatomy of deaf-mutism, and is probably the most important contribution to this department of the subject that has been made. The morbid changes found in the middle ear and in the separate sections of the internal ear, are discussed with great care. This chapter will give the book a lasting place in the literature of the subject.

The third chapter is entitled "Symptoms of Sequelæ." We would like to see the subject of the hearing power of deaf-mutes dealt with at greater length than Dr. Mygind finds space for. Much of it is filled up with unimportant sections. Instead of devoting a section to the refutation of the theory that deaf-mutes are usually left handed, it is better to ignore such theories as pure superstition. Dr. Mygind devotes one section (p. 98) to the subject of the great number of children resulting from marriages producing deaf-mutes, and another (p. 208) to the subject of sterility in connection with the marriages of deaf-mutes, and it is difficult to see how these sections do not contradict each other.

The last chapter is short and deals with diagnosis, prognosis, and treatment in a rational and clear manner. There is a valuable appendix giving the *post-mortem* examinations of deaf-mutes reported in literature.

To the English reader the chief objection to the book is that the English and American literature of deaf-mutism is not fairly represented. This is particularly true of American deaf-mute literature. The book is well translated, evidently by the author himself, with the assistance of his friend Dr. Norris Wolfenden of London.

The Physician's Wife. By ELLEN M. FIREBAUGH.
London: J. Rebman. 1894.

IN these days of uncompromising realism, it is quite a relief to turn to this amusing account of the joys and sorrows of a country doctor and his wife. We were not aware that the post of wife to a physician was one requiring any special qualification or training, but that this is the case seems to be the opinion of the author. Patience, sympathy, charity, and dignity are the attributes she considers essential; but these we have always thought were the qualities of the ideal wife for all sorts and conditions of men. Absentmindedness, forgetfulness, and unpunctuality on the part of the doctor, apparently the chief trials of the writer's life, are failings not

wholly confined to one profession. The writer, while bewailing her many woes, gives little instance of her power of sympathy with her husband in his hard day's work. She shows up his weak points, tells of the good advice she gives him, of the several times she argues with him till the poor man is silenced, but she has hidden from the reader wherein she is a helpmeet for her husband, and a comfort to him in his worried and tried life.

We are glad to notice that the writer approves of the doctor keeping silence with regard to the ailments and troubles of his patients, and we are pleased to note that, though the opportunity occurs, she does not interfere with the orders of her husband. It seems to be customary for the physician in America to attend his own wife and family. No doctor of good standing in this country would ever fall in with this arrangement.

We have the greatest sympathy with the physician and his wife in regard to the question of fees, and would recommend this portion of the book to the careful attention of the laity. Doubtless it is the ambition of many young doctors to work without payment, but, when expenses increase, he is obliged to be less generous. To a sensitive soul ingratitude is more painful than lack of fees. The instance cited (when the doctor, strong in his new found resolution "to work in future only for himself and family," refuses an urgent call) contains no argument against the justice of his determination.

Should the book reach another edition, it might be well to explain, for the benefit of English readers, the occult meaning of "clover-puller," as applied to a shrewish woman. Wit which consists in small sneers at religion is distinctly cheap, and its omission, along with the occasional irreverent language, would improve an otherwise commendable attempt to show how to be happy though married to a physician.

Madeira and the Canary Islands: a Practical and Complete Guide for the Use of Invalids and Tourists. With Eleven Maps and Five Plans in Three Colours. By A. SAMLER BROWN. Third and Revised Edition. London: Sampson, Low, Marston, & Co., Limited. 1894.

THIS book, which is cheap and nicely got up, contains a large amount of material, and is intended not only for invalids and tourists, but also for residents, traders, and others. It gives much information of a kind that one does not look for in an

ordinary tourist's guide. Thus, after a tabulated account of the steamers running to the islands, and the general directions requisite for travellers, we find a bibliography, meteorological statistics, &c., then the history of Madeira and of the Canaries, followed by a guide to these islands and to the Azores. A short account is also given of the fauna and flora of these regions. The "commercial section," occupying seventy-five pages, deals with a great variety of subjects, including natural products (minerals, crops, and animals), population, education, taxation, the condition of labour, &c., &c., with numerous statistical tables. The diversity of topics considered contributes largely to the general interest of the work, and the casual reader may gain much instruction and entertainment by glancing through its pages. To those, however, who are in any way interested in the islands, the book must be of supreme value.

The Art of Living in Australia (together with Three Hundred Australian Cookery Recipes and Accessory Kitchen Information by MRS. H. WICKEN, Lecturer on Cookery to the Technical College, Sydney). By PHILIP E. MUSKETT, Late Surgeon to the Sydney Hospital, &c. London and Sydney : Eyre & Spottiswoode.

THE idea naturally occurs to the mind, after an examination of this book, that, if only Dr. Musket's instructions are attended to, there ought to be no difficulty in living in Australia. The directions are given in such detail, including, for instance, such little matters as the proper way to pare the nails, and how to restore the hair to a head that is losing its natural covering, that surely a man must have himself to blame if life at the Antipodes proves not to be all that could be desired. But, though the author's aim has been such a far-reaching one as we have indicated, he professes to have one object more particularly in view—viz., to induce the colonists to change their present food habits. "The consumption of butcher's meat and of tea is enormously in excess of any commonsense requirements, and is paralleled nowhere else in the world." "There has been no real attempt to develop our deep-sea fisheries; market-gardening is deplorably neglected, only a few of the more ordinary varieties being cultivated; salads, which are easily within the daily reach of every home, are conspicuous by their absence; and Australian wine, which should be the natural beverage of everyday life, 's at table almost a curiosity." "One of the most extra-

ordinary circumstances in connection with the Australian people is that they have never yet realised their semi-tropical environment."

The subjects of climate, hygiene, exercise, &c., receive consideration in this work, but the question of foods is gone into with great minuteness. The author also pays much attention to wines, and states his belief that the cultivation of the vine will be the "one industry on which the prosperity of Australia must sooner or later rest."

Though scarcely to be regarded as a work of great ability, this book is well worthy of attention. The literary style is clear and agreeable, and the writer must have read widely, and otherwise devoted much time to the preparation of the text.

We fully concur with his opinion that good cookery is of superlative value, and we trust that this book will have a good sale were it only for the sake of the second part (by Mrs. Wicken). English speaking people are too apt to think that good cookery means expensive cookery, and therefore to fight shy of it. That the opposite is the case ought to be made clear to Australians by Mrs. Wicken, who gives the total cost, as well as the ingredients, of each dish which she recommends to the favourable consideration of her fellow-colonists.

The Phonographic Record of Clinical Teaching. No. 1.
June, 1894. London: Sir Isaac Pitman & Sons.

WHATEVER view may be taken of the advantage of being able to take *verbatim* reports of class lectures, there can be no question that a practical knowledge of shorthand is a valuable aid to the recording of clinical work, both before graduation and afterwards. Accordingly, we heartily welcome this publication, and wish it all success in its endeavour "to promote the use of shorthand among medical students and practitioners, by affording the means of increasing, at the same time, their familiarity with the art and their professional knowledge."

The outlines given for medical terms are those which have stood the test of experience, while, as regards matter, we cannot better indicate its excellence than by mentioning that the papers in the first number are contributed by Sir William Jenner and Dr. Gowers. The interest of the latter in the subject of "Shorthand in Medicine" must be familiar to the readers of recent issues of the *British Medical Journal*.

MEETINGS OF SOCIETIES.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

SESSION 1893-94.

MEETING X.—27TH APRIL, 1894.

PROFESSOR M'CALL ANDERSON *in the Chair.*

I.—A CASE OF SUBCUTANEOUS RHEUMATIC NODULES.

BY DR. MIDDLETON.

The patient in this case was a lad of 14, who had been admitted to the Royal Infirmary suffering from cardiac disease of rheumatic origin. About a fortnight before the date of meeting there had first been seen the nodules, on account of which Dr. Middleton brought him before the Society. There had not been many cases of subcutaneous nodules shown at the Glasgow Societies. In 1886 he had himself shown, at the Pathological and Clinical Society,¹ a woman with painful subcutaneous growths associated with a rheumatic history, but in her case the nodules were of a somewhat different kind. He might refer to the classical paper by Drs. Barlow and Warner read before the International Medical Congress in London in 1881, and to the woodcuts in Garrod's book on *Rheumatism*, which represented very well the conditions found in the present case. The nodules were here best seen when the patient flexed his fingers, and were situated over the knuckles, over the styloid processes of the ulnæ, and over the left elbow. They were easily movable under the skin, and were quite painless. They had been first noticed on the 16th, and since that date had increased in number, a new one having been discovered on the morning of the day of meeting. In themselves they were of very slight moment to this patient, but in his former case they had been painful, and caused much distress. Such nodules were regarded by those who had written on the subject as being absolutely pathognomonic of the rheumatic poison, and as thus being of value, from the diagnostic point of view, in doubtful cases.

¹ See *Transactions Glasgow Pathological and Clinical Society*, vol. iii, p. 26.

Under the microscope were sections from his former case, and these might be seen to be composed of connective tissue. Nodules from cases similar to the present had been examined by other observers, and found to be of like formation. Although in his former case there had been no heart affection, it was to be noted that Barlow and Warner said that subcutaneous nodules and heart disease were always associated with one another in their experience.

II.—A CASE ILLUSTRATING DERMOGRAPHY.

BY DR. MIDDLETON.

The patient in this case had recently suffered from almost complete peripheral neuritis, and, in testing for the tache cérébrale, Dr. Middleton had found that a stroke upon the skin was followed at once by a degree of redness, and that this was succeeded by such a degree of elevation of the skin that one could quite well read anything written upon it merely by passing the hand over it. Such a condition he found described in Charcot's *Iconographie*, under a name literally translated as above.

Dr. Joseph Coats said that to his mind this case opened up the whole question of the pathology of urticaria, which, he thought, stood in great need of elucidation. He was not sure what this rising of the skin, in urticaria and in conditions like the present, meant. Two explanations had been suggested—(a) that it was due to the action of the muscular tissue of the skin, and (b) that it was really an acute œdema. The question was still undecided; but, if one could get a bit of skin thus affected, the examination of it might throw some light on the subject.

Dr. Newman had noticed in Dr. Middleton's case that the part of skin had first looked red, and then became pale as well as swollen. That suggested that there was first increased vascularity, and that then exudation took place, with an accompanying diminution of vascularity.

Dr. McCall Anderson thought it right to say that the condition illustrated by Dr. Middleton's patient, though a very interesting one, was not at all uncommon, and was readily induced on any patient who suffered from urticaria. He had such a case coming into the Western Infirmary on an early date, and if Dr. Coats could get the patient to agree, he might have a section of the affected skin for examination.

The condition was found not only in persons who had themselves had urticaria, but also among those who were members of urticarial families. Many rashes, not definitely urticaria, had to be grouped along with that disease, and showed their relationship to it by their rapid onset, evanescent character, &c. It was interesting to know that, although Dr. Middleton's patient had not had urticaria, he was convalescent from a nervous ailment.

Dr. Anderson did not think that the rising of the skin could be regarded as the result of muscular action. There was rather an acute inflammatory oedema. In favour of this latter view were the facts of the early vascularity and of the pallor, which might be regarded as the result of the exudation pressing the blood into the periphery.

Dermography was well known in this country under the name of "factitious urticaria."

III.—CASES ILLUSTRATING A TYPE OF IDIOCY IN CHILDREN.

BY DR. R. M. BUCHANAN.

The cases which I desire to bring before the Society have come under my observation in the dispensary practice of the Children's Hospital. Each child presents a peculiar physiognomy, and from close observation it soon becomes evident that this is associated with a certain mental defect. This peculiarity is stamped with a character so remarkable that the condition is easily recognised at first sight. Case after case has conformed so uniformly to a type that there may be suggested the question of a distinct clinical entity dependent on an invariable pathological process. The resemblance between one case and another reminds one of what pertains in cretinism and in myxœdema, and, as a group, it seems to be quite as well marked.

I have met with seven cases, and five of them are here to-night.

Of the seven cases six are boys, and the ages range from ten months to three years. The head is smaller than normal, and the deficiency appears mostly in the frontal region. The fontanelle remains open in all the children; in one aged twenty months it measures $2\frac{1}{2}$ inches by $1\frac{1}{2}$ inch; in the oldest child (the girl, three years) it is less than half an inch in diameter.

The face is small and flat, with a very small nose, and the palpebral fissures are small and directed somewhat obliquely upwards and outwards. The tongue, in the younger children

especially, is being constantly protruded and rolled about. In all the cases but one nystagmus has been, or is, very notable as a symptom, and was associated with head nodding in one case. Frequent snorting noises are produced. The hands are short, with wrinkled skin and fingers spread out. The teeth are notably late in appearing, and the palate shows a high narrow arch.

The older children present a fair amount of intelligence, and their expression at times is very humorous. The younger children are generally more or less passive and quiet.

From an etiological point of view, there is no common condition which I can discover that seems adequate to explain this marked arrest of development.

Dr. Newman said that four at least of the children were suffering from some nasal obstruction, and might be seen to breathe through their mouths. They were so young that one could not easily make digital examination, but he thought it likely that they had post-nasal adenoid vegetations, and that affection was known to occasion a stupid expression which might be laid down to mental defect.

Dr. R. M. Buchanan replied that the question of adenoid vegetations had been considered by him, and that he had examined some of the cases without being able to satisfy himself of the presence of these growths. They had this peculiarity, associated perhaps with the high palate, that the soft palate was very deep, and this added to the difficulties of examining the throats. He had tested the children by holding their lips together, and had found that they had then breathed with perfect freedom; there could not thus be much nasal obstruction. Although considerable mental deficiency was sometimes associated with adenoid growths, he still thought that in the present group of cases there was some cerebral defect, probably in the frontal region, and therefore he had difficulty in accepting the adenoid theory as a sufficient explanation here.

IV.—PAPER ON EYE-SYMPTOMS IN MEDICAL DIAGNOSIS.

By DR. JAMES HINSHELWOOD.

Dr. Hinshelwood's paper will be found as an original article at p. 188.

Mr. Clark expressed the pleasure with which he had listened to the paper. He wished to emphasise what Dr. Hinshelwood had said about not depending entirely upon the central part of the field in testing acuteness of vision. He frequently met

upon the street a man who had been his patient at the Eye Infirmary, and who had had peripheral choroiditis, which had gone on in one eye to loss of sight, and in the other had left so restricted a field of vision that, at a distance of 3 feet, the area could be covered with the hand. This man was still able to go about his work (as inspector of water-works), because the part of his field which had been preserved was central, and the loss might not be detected unless one tested him peripherally. The case was an illustration, too, of the fact that there might be great loss without consciousness of it on the part of the patient.

Mr. Clark could remember a similar case of diphtheria of the conjunctiva, as a primary affection, in which the diagnosis had subsequently been confirmed much as in Dr. Hinshelwood's case, but in which, at an early stage, that diagnosis had been by no means easy. With regard to paralysis of accommodation following diphtheria, he might refer to a case of such paralysis in a patient who had been found, on questioning, to have recently suffered from sore throat. Diphtheria had accordingly been suspected, and, on Dr. J. B. Russell being communicated with, an epidemic of sore throats, not previously regarded as diphtheria, was discovered to have existed in the district, and the drains to be thoroughly bad, and requiring renovation.

Then, as to albuminuric retinitis, he was sure that in two-thirds of the cases which had come under his care, there had been no previous diagnosis of nephritis, and albumen had been found, on testing the urine, only after examination of the retinae had shown characteristic appearances to exist there.

All these points showed how important it was to get all the information one could from the eye as well as from other organs. There was perhaps nothing very new in Dr. Hinshelwood's paper, but it confirmed previous observations, and emphasised very properly the importance of the examination of the eye.

Dr. McCall Anderson said that, though there might not be anything very novel in Dr. Hinshelwood's paper, he thought it was just the sort of paper to read before a society of medical practitioners. They all needed to be reminded of such facts as it had dealt with, and of the importance of eye-symptoms. He did not think that Dr. Hinshelwood could blame him for not recognising their importance, because hardly a day passed without his asking him (Dr. Hinshelwood) to examine at least one patient's eyes for him. When he wanted a case of granular

degeneration of the kidneys to demonstrate to his class, he had found that the place where he was most likely to get it was at the Eye Infirmary. He would ask Dr. Hinshelwood if the observations he had mentioned of retinal hæmorrhage in *pernicious* anæmia had been confirmed by others.

Dr. Hinshelwood, in reply, explained that he had not spoken of large hæmorrhages, but of multiple small ones. It was a recognised fact that these latter were specially associated with *pernicious* anæmia—indeed, it had been said that they occurred in every case of *pernicious* anæmia.

MEETING XI.—4TH MAY, 1894.

PROFESSOR MURDOCH CAMERON *in the Chair*.

I.—CASE OF PSORIASIS CURED BY THE USE OF THYROID EXTRACT.

By DR. W. G. DUN.

The patient from this case was shown by Dr. Dun. Details as to the history and treatment will be found in Dr. McCall Anderson's "Clinical Memoranda," as published in the *Glasgow Medical Journal*, 1894, vol. i, p. 421.

Dr. Charles Workman thanked Dr. Dun for having brought forward such an interesting case. His (Dr. Workman's) feeling was that the subject of the treatment of psoriasis by thyroid extract was still in the balance. They knew that with other forms of treatment (chrysophanic acid ointment, &c.), results quite as satisfactory as were here shown had been obtained; and in treating with thyroid extract there was the risk of setting up severe dyspepsia or even more serious disturbance of health, as he had found in using the remedy in other diseases. On the other hand, there were well-known objections to the ointments ordinarily employed in the external treatment of psoriasis. One had thus to deliberate as to which was the lesser of the two evils. Either method of treatment was likely to be successful; but, in estimating that success, one had to remember the beneficial effect of removing a patient from an uncomfortable home into the healthy conditions of living provided in hospital. He had known of patients with psoriasis improving in hospital without the use of any remedies, and he thought that in this

case there would have been a considerable measure of recovery even though the thyroid extract had not been given. The thyroid had probably hastened the recovery, but perhaps that recovery would have been even more rapid if the patient had been treated with chrysophanic acid ointment while getting the benefit of hospital living. It was impossible to judge from one case. What Dr. Dun had shown, he thought, was that it was worth while trying thyroid treatment for psoriasis as it seemed, like other remedies, to assist in hastening a cure.

Dr. Lawrence Oliphant asked if it was the experience of other members that psoriasis became cured spontaneously in hospital air. He cited a case he had seen in the Edinburgh Royal Infirmary controverting that view, and referred to other cases developing psoriasis while in hospital.

Dr. Jack asked how *Dr. Workman* would reconcile what he had said with the fact that a very large proportion of cases of psoriasis occurred in persons who were otherwise perfectly healthy.

Dr. Johnston Macfie thought that *Dr. Workman's* point was not so much the special excellence of hospital feeding, but the change from former conditions. Perhaps a change from good feeding to bad would be of advantage in other cases.

Dr. Hinshelwood could not agree with what *Dr. Workman* had said about cases of psoriasis getting better without remedies. They did not see such cases in hospital because the patients there were always put under treatment; but, on his theory, how would *Dr. Workman* explain the occurrence of psoriasis in persons who were in the very best circumstances, and the recognised benefits derived from remedies hitherto employed. Although it was important in every case of illness to have the patient in the best hygienic conditions, he did not think, that in the present instance, too much stress should be laid upon the transference of the patient to hospital. The thyroid extract seemed to him to be entitled to a great share of the credit of the cure; and, even though other remedies might do good, it was well for the physician to be able to add yet another to his *armamentarium* for the treatment of such an obstinate affection as psoriasis.

Dr. Murdoch Cameron, in thanking *Dr. Dun* for having shown the case, referred to one which had been under his own observation, but in which the result of thyroid treatment had not been so satisfactory. He quite recognised the advantage of transferring a patient into hospital from a poor home, but he was not aware that that could of itself cure psoriasis.

Dr. Dun, in reply, quite agreed with *Dr. Workman* as regards other methods of treatment being more speedy than that by thyroid extract. The latter was still on its trial, but it would be an important advantage if they could add it to their present remedies for psoriasis. He had seen a good many cases of this disease, but had never seen a spontaneous cure. If they did not treat their patients in hospital he feared they would be blamed for neglect.

II.—DISSECTION ILLUSTRATING THE ANATOMY OF FLAT-FOOT.

BY DR. ROBERT KENNEDY.

Dr. Kennedy showed this dissection as well as drawings which had been made from it, and from a corresponding dissection of a normal foot. His account of the case will be found in full in an original article at p. 198.

Mr. Clark thought the specimen a very interesting one. A very marked feature, as mentioned by *Dr. Kennedy*, was the articulation of the external malleolus with the calcaneum. Indeed, it was obvious that the person, in resting on the foot, must have rested upon that articulation. Another important point was the displacement of the head of the astragalus downwards so that three-fourths of its articular surface came to be carried below the corresponding surface of the scaphoid. The inferior astragalo-scaphoid ligament was stretched to about twice its normal length.

In such cases he had operated by different methods, but most frequently by *Ogston's*, in which one did away with the articular surfaces of the astragalus and scaphoid, and obtained ankylosis of the astragalo-scaphoid joint. Whatever operation was performed, the foot was left very weak and the arch very incompetent. The only thing that one could do was to try to shorten the inner side of the foot and raise its arch. He did not think that the operative treatment of flat-foot was yet at all satisfactory, and dissections such as *Dr. Kennedy's* should give surgeons much assistance in improving their methods.

Dr. Barlow asked if *Dr. Kennedy* had noticed the condition of the tibial muscles.

Dr. Kennedy explained that he had not had an opportunity of doing so, as the foot was the only part removed.

Dr. Barlow mentioned a case of extreme flat-foot in which he had broken down adhesions and restored the arch by manipulation, then putting the foot up in plaster of Paris.

He had afterwards treated the tibial muscles by electricity and employed gymnastics. He had been satisfied with the result obtained, and thought it compared well with that given by removing a wedge of bone.

Mr. Clark asked *Dr. Barlow* if the foot in that case had been "scaphoid."

Dr. Barlow replied that it had been very distinctly flat. He could feel the head of the astragalus projecting very prominently.

Mr. Clark thought that when the sole was convex nothing short of removal of bone was effective.

Dr. Kennedy said that he had seen many cases of flat-foot operated upon. He had examined the wedges of bone removed, and found them to consist of the scaphoid. The results of treatment had been satisfactory.

III.—PAPER ON "THE GYNÆCOLOGICAL CLINQUES OF BERLIN."

BY DR. J. MUNRO KERR.

Dr. Munro Kerr read a short paper on the above subject. He spoke, first of all, of the position of English gynæcology, and of the disparaging remarks sometimes passed on it by our German confrères. Afterwards, referring to the common accusation made in this country against German gynæcologists that they are developing too much into surgeons pure and simple, he mentioned, as proving how unjustifiable such generalisation is, the treatment pursued in some of the hospitals in cases of salpingitis and extra-uterine pregnancy.

Dr. Kerr gave details as to the opportunities for studying gynæcology in Berlin. These, he said, were endless; but, for those who had only a few weeks to spare, March and October were the best months, as courses of instruction in all the departments of gynæcology were then given in each of the special hospitals. The position of asepsis in operative work was referred to, and, as showing how beneficial all the apparently unnecessary care in detail is, the statistics of some of the leading operators were mentioned.

Dr. Lawrence Oliphant thought *Dr. Kerr's* paper a most useful one as indicating the advantages which might be obtained from a visit to Berlin by one specially interested in gynæcological work.

Dr. Murdoch Cameron expressed the pleasure with which he had listened to the paper, and tendered the thanks of the Society to *Dr. Kerr*.

IV.—PAPER ON "SYMPHYSEOTOMY."

BY DR. LAWRENCE OLIPHANT.

The substance of this paper appeared in our July number, at p. 74, as one of the "Abstracts from Current Medical Literature."

Dr. Murdoch Cameron said that, notwithstanding what had been said by Dr. Kerr about the discrimination in operating shown by Continentals, he was convinced from his own experience that they would operate whenever they had the chance, especially if the operation were a new one.

Dr. Oliphant drew attention to the fact that in several of the cases he had cited the patient had previously had children born naturally.

Dr. Murdoch Cameron added that a similar history had sometimes been given in cases upon which Cæsarean section was performed on the Continent. The Germans advised that operation (Cæsarean section) with a pelvis of $3\frac{1}{2}$ inches diameter, whereas, in this country, premature labour would be induced in such circumstances. In the cases in which they had heard symphyseotomy to be recommended by its advocates, he felt sure that he could get living children born by inducing labour at seven and a half months and using the forceps he had recently shown at the Obstetrical Society.

V.—CARD SPECIMENS.

BY DR. DALZIEL.

1. *Hygroma of neck*.—Removed from a woman, 50 years of age. Tumour noticed for five years before removal. It was pendulous over inner end of left clavicle. At operation it was readily dissected out, and was found to have a narrow pedicle on its deep surface.

2. *Recurrent cancer of breast*.

3. *Ossifying chondro-sarcoma of lower jaw*.—Removed by operation from a lady, aged 40. Duration, three months.

4. *Double pyosalpinx with abscess of ovary*.—Removed by operation.

5. *Varices removed by operation* from a man, aged 27, who for six years was affected with a varicose condition of the internal saphenous vein.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

NERVOUS DISEASES AND INSANITY.

BY DR. R. S. STEWART.

Primary Sarcoma of the Ventricles of the Brain. By Prantois and Etienne. (*Archives de Neurologie*, April, 1894).—Primary sarcoma generally occupies only one ventricle: the peculiarity of this case is the extension of the tumour to all the cerebral ventricles. It is that of a girl of 12. The initial symptoms were persistent frontal headache, vertigo, deafness, intermittent vomiting and constipation, occurring at intervals and followed by persistent strabismus and very rapid wasting. The pupils became dilated and irresponsive. Amaurosis with pallor of the papilla and atrophy of the retinal vessels supervened; the emaciation progressed and cerebral excitement set in shortly before death. All the ventricles were found studded with nodular new formations, which on microscopic examination showed themselves to be of a sarcomatous nature. The fourth ventricle was much distorted, and the aqueduct of Sylvius was unaffected.

Pauper Alcoholic Insanity. By Pringle. (*Proceedings of the Society for the Study of Inebriety*, May, 1894).—Dr. Pringle assumes—(1) that there is an alarming increase of pauper lunacy in the country; and (2) that this is due in great measure to alcoholism, and in order to ensure the removal of the cause and the return of normal will-power, he suggests temporary detention in an institution occupying a position midway between the lunatic wards of the workhouse and the ordinary asylum.

General Paresis, a Toxine Disease. By Bannister. (*American Journal of Insanity*, April, 1894).—This writer bases his opinion upon the relationship that subsists between general paralysis and syphilis. In support of the view that syphilis is with rare exception the cause of general paralysis, he points out that it may unquestionably follow recent syphilis, that it is preceded by syphilis in from 70 to 90 per cent of all cases, that it seems to be communicable from husband to wife, that it abounds in great cities and is rare in rural districts, that it occurs at an early age in cases of hereditary syphilis, and that it is especially frequent in the classes of men and women in whom syphilis is most common, and comparatively unknown amongst those who, from their professions and occupations, are presumably least liable to syphilis. The view that syphilis does not produce the disease, but simply prepares the system for it does not meet with his acceptance; he holds that the toxine that produces the disease is in the system, and only waits for other conditions to prepare the way for its activity.

Insanity in Cape Colony. By Greenlees (*American Journal of Insanity*, April, 1894).—The following are a few of the interesting points brought out in this paper:—The percentage of the insane to the general population in the colony is '07, as compared with '3 in England. While in most civilised countries there is one insane individual to about every 300, the proportion at the Cape is only 1 to 1,577, or 1 to 1,200 of the entire white population. Epilepsy is most prevalent among the white population and in the coloured races—least so, in the Kaffirs. General paralysis is practically unknown among the coloured peoples, and the proportion among white insane is only 2·6 per cent, as compared with the rate of 9·1 which prevails in England. It is, further, extremely rare in African born whites, but the proportion among immigrants reaches 6·3 per cent.

The Musical Faculty in Cerebral Diseases. By Ireland (*Journal of Mental Science*, July, 1894).—The conclusions arrived at by this writer are that the area of the brain, through which musical feeling and activity are realised, is not confined to the convolutions of the left hemisphere implicated in motor and sensory aphasia, that the musical faculty must be exercised on both sides of the encephalon, that it is doubtful that its activity depends upon a circumscribed portion of the brain, and that the musical faculty may survive after extensive brain diseases which have more deeply impaired the more complex mental faculties.

Music and the Musical Faculty in Insanity. By Legge (*Journal of Mental Science*, July, 1894).—In the matter of "ear" and sensibility to music, this observer does not think that idiots are inferior to musically uncultivated sane persons; but, in the power of employing music as a means of appealing to the higher feelings, the capacity of the imbecile diminishes *pari passu* with his mental power. In the acquired insanities the higher forms of the musical faculty generally suffer, the musical performances often reflecting the incoherent, distorted, depressed, or defective state of the mind. Musical "ear" is affected in general paralysis alone.

Derby Borough Asylum: Fifth Annual Report.—A recovery-rate of 57.1 per cent of admissions during the year 1893, and an average recovery-rate of 47.2 during the first five years of the asylum's existence, are very creditable features of this report; and the death-rate, though still high, is 3.8 per cent lower than the average rate for the previous four years.

MATERIA MEDICA AND THERAPEUTICS.

By C. O. HAWTHORNE, M.B., C.M.

The Therapeutics of Thyroid Extract.—Various contributions to this subject continue to be made. Whilst many cases of psoriasis and other skin affections are reported as cured by the thyroid treatment, unfavourable results are by no means uncommon. W. Dale James records a case of psoriasis in which the administration of four tabloids *per diem* produced, at the end of a week, glycosuria with an excessive amount of urine, thirst, embarrassed respiration, and the smell of acetone in the breath. All these symptoms disappeared when the thyroid treatment was suspended. The psoriasis was not improved.

Yorke-Davies (*British Medical Journal*, 7th July, 1894), in discussing the treatment of obesity, states that in certain cases the thyroid treatment is a valuable adjunct to a properly constructed dietary.

In the same number of the *British Medical Journal*, Dr. Duncan Menzies reports several cases of "malignant" syphilis, in which the skin affections distinctly improved under the use of thyroid tabloids. Dr. A. G. Auld prescribed thyroid treatment for a patient suffering from exophthalmic goitre, the disease being in a "dormant or resting condition." The result was highly unsatisfactory, the symptoms and physical evidences of the disease becoming more pronounced.

Dr. Byrom Bramwell has continued his clinical experiments with the thyroid treatment. In the *British Medical Journal*, 14th April, 1894, he reports two cases of lupus improved by this method, and suggests its trial in epitheliomatous conditions of the skin and in rodent ulcer. Dr. Bramwell's lecture is a most interesting one, and is illustrated by photographs of his two patients suffering from lupus, showing the condition before and after treatment.

Bone-Marrow in the Treatment of Pernicious Anæmia.—Professor Fraser has given a further account of the results of treatment in a case he communicated to the International Medical Congress at Rome. The usual remedies, such as ferrous chloride, arsenic, &c., produced little or no improvement until the administration of bone-marrow (3 ounces, uncooked, daily) was commenced. Then an almost immediate improvement occurred. The case was a very urgent one, but under persevering treatment recovery appeared to be complete.—(*British Medical Journal*, 2nd June, 1894).

The Ill Effects following the Use of Antipyrin, Antifebrin, and Phenacetin.—The Therapeutic Committee of the British Medical Association has published an elaborate report upon this subject. The report is based upon 220 communications received in answer to a letter of enquiry issued by the Committee. The summarised results are as follows:—

Antipyrin.—Ill effects are not of the frequency or importance ascribed to them by a wide-spread impression. The large majority of observers agree in stating that they are of no importance whatever, and that, with reasonable and judicious care, they limit in no way the general usefulness of the drug as a therapeutic agent.

Antifebrin.—Ill effects are both absolutely and relatively more frequent in their occurrence than is the case with antipyrin. Notwithstanding certain experiences to the contrary, the conclusion must be permitted, that to give antifebrin in doses of 5, 6, 8, and even 10 grains, still more to repeat these after a short interval, is a highly injudicious procedure. Such doses are altogether excessive. They are equivalent to about 25, 30, 40, and 50 grains of antipyrin. The liability to ill effects of ill effects does, to a certain extent, interfere with the usefulness of the drug, the chief drawback being its markedly depressant action. The repute of the drug has, however, probably suffered from the fact that excessive doses are not infrequently administered.

Phenacetin.—This is a general verdict in favour of this drug, both on account of its value, especially as an analgesic, and also because of its notable freedom from injurious action.

The report is a very valuable one, and may be considered to have determined the true value of certain rumours, which have occasionally taken a sensational form, in regard to the effects of these well known remedies.

Sodium Nitrite as a Therapeutic Agent. By Gordon Sharp, M.B.—This is a clinical study of the action of sodium nitrite. The beneficial effects of the salt in angina pectoris were fully confirmed, all the patients being relieved. Dr. Sharp suggests that the salt may be utilised for diagnostic purposes in cases of thoracic pain, in which a doubt exists regarding the nature of the pain. He quotes a case in illustration of this point. The nitrite was found of great service in cases of arhythmic or intermittent cardiac action, in which, with a hard pulse, a beat is missed occasionally. As a possible explanation of these cases, Dr. Sharp offers the suggestion that some poison circulating in the blood may irritate the peripheral vessels into a state of contraction, thus producing undue resistance to, and occasional failure of, the cardiac systole. Sodium nitrite promptly relaxes the arterial spasm, and so diminishes peripheral resistance. Ill effects were noted in about 20 per cent of the cases. The most frequent were headache, nausea, vomiting, and syncope—doubtless due to a too sudden fall of blood-pressure. The addition of a few minims of aromatic spirit of ammonia and solution of hydrochlorate of morphine to the nitrite helps to prevent these symptoms. Dr. Sharp recommends 4 grains as a maximum dose of the salt. In one of his experiments he demonstrated, by sphygmographic tracings taken from the temporal and anterior tibial arteries, that the dilatation of the arteries which sodium nitrite produces is a general one, and is not confined, as some teach, to the arteries of the upper part of the body. Cases of asthma, of subacute and chronic bronchitis, received no relief from sodium nitrite; whilst in a case of Graves' disease the palpitation and tremor were aggravated.—(*Practitioner*, May, 1894.)

The Treatment of Nocturnal Enuresis.—Dr. Donald MacAlister advocates "courageous overdosing" with solution of atropine sulphate. He prefers the alkaloidal salt to the tincture of belladonna, because of the uncertain strength of the latter preparation, and the large quantity required to produce physiological effects. The remedy must be pushed to the utmost. Dr. MacAlister has given as much as a quarter of a grain nightly to a girl of 17. Dryness of the throat, and paralysis of accommodation must not deter the practitioner from continuing the treatment. Dr. MacAlister has not observed cerebral or cardiac disturbances. He gives the atropine sulphate in combination with strychnine, which he considers diminishes the depressant effects of large doses of atropine, and increases the sensitiveness of the vesical centres to reflexes from the bladder walls.—(*Practitioner*, May, 1894.)

Prunus Virginiana in Heart Disease.—In a lecture on the therapeutics of heart disease, Dr. Seymour Taylor advocates the claims of this drug as a cardiac tonic. He finds it to be especially useful in dilatation of the right ventricle, whether due to mitral stenosis or chronic bronchitis. It may also be confidently employed to increase the tone of the cardiac muscle in anæmic and debilitated patients; and generally, as an excellent change or substitute for digitalis.—(*Clinical Journal*, 16th May, 1894.)

Chloralose.—Mr. Charles Fleming has made a clinical study of the action of this hypnotic. He concludes that benefit may be expected from it in all forms of functional sleeplessness, in the insomnia of psychical excitement, of hysteria, of neurasthenia and overwork, of functional cardiac irritability, and in attacks of epilepsy and somnambulism. He finds the drug of no value in insomnia depending on alcoholic excitement, or due to any painful organic lesion or peripheral irritation.

Chloralose may be given in doses of from 2 to 6 grains in milk or cachets. It produces sleep in from twenty to sixty minutes. Sleep lasts from four to ten hours. The drug produces no unpleasant effects.—(*Practitioner*, July, 1894.)

Polypharmacy.—The following prescription is published by the *Canada Lancet* (February, 1894) as an instance of polypharmacy:—

R.—Spt. terebinth.,	.	.	.	.	.	.	.	3 iv.
Ether. sulph.,	.	.	.	.	.	.	.	3 iii.
Tinct. gent. co.,	.	.	.	.	.	.	.	3 ivss.
Mag. sulph.,	.	.	.	.	.	.	.	3 i.
Pulv. trag. co.,	.	.	.	.	.	.	.	3 iii.
Pot. nit.,	.	.	.	.	.	.	.	3 iiss.
Tinct. nuc. vom.,	.	.	.	.	.	.	.	3 iiss.
Acid. nit. mur. dil.,	.	.	.	.	.	.	.	3 iiss.
Bis. trisnit.,	}	.	.	.	.	.	aa	3 ii.
Lactopep.,		.	.	.	.	.	.
Syr. acaciae,	.	.	.	.	.	.	ad	3 vi.—M.

SIG.—3ss t. i. d.

Opium: Has it any Use other than a Strictly Medical one?
By Pringle (*Proceedings of the Society for the Study of Inebriety*, February, 1894).—While the general tenor of the evidence given before the Royal Commission on opium is in the direction of an affirmative answer to this question, Dr. Pringle uncompromisingly takes the opposite view. After detailing the possible uses of the drug for purely medical purposes, he proceeds to discuss its alleged benefits when used with other objects, which he classifies under the following headings:—(1) Tonic for ordinary labour; (2) specially stimulant for increased exertion; (3) sustaining life on a minimum of food; (4) aphrodisiac in impotence or sterility; (5) sensuous in debauchery; and (6) control over the action of *ganja* for endurance in fasting and self-inflicted pain. The "opium question" has lately come into prominence, from a

political point of view, from its supposed connection with the mysterious smearing of the mango trees in certain districts of India, described by the alarmist writer in the *Spectator* of 5th May, and though most will on high moral grounds agree with Dr. Pringle that there is only one use for opium—the medicinal one—attempts to interfere in any revolutionary fashion with old-established and confirmed habits of large oriental communities are generally regarded as fraught with danger.—R. S. S.

SURGERY.

By HENRY RUTHERFURD, M.B.

Intestinal Obstruction.—Obalinski of Cracow discusses diagnosis and treatment on the ground of 110 cases in which he has performed laparotomy for this condition. Out of this number he claims 38 successes, or 34·5 per cent. Besides these, he has had 20 cases where he considered the obstruction to be not of mechanical but of functional origin, and in which, accordingly, he did not operate. Of these, 15 recovered. In all, this makes 130 cases, with 53 recoveries, or about 40 per cent.

In 1889 Goltdammer, of the Bethany Hospital, Berlin, published a series of 50 cases treated on expectant lines with large doses of opium, with 15 recoveries, or 30 per cent.

Of Obalinski's cases, the best results were obtained where obstruction was due to twisting of the sigmoid flexure. Here, out of 19 cases, 9 recovered, 2 after resection of the affected part. In twists of the small intestine, of 19 cases only 5 recovered. Of 7 cases of invagination operated on, all died.

The local signs to which he directs attention, as distinguishing mechanical from paralytic obstruction, are (1) increased peristalsis and (2) local meteorism. With regard to the former, he notes its absence in the acute obstruction of external hernia, and suggests that its development may be dependent on the presence of a certain amount of exudation from the imprisoned or compressed part into the peritoneal cavity—exudation, that is, of the early stage before micro-organisms have escaped; with regard to both, their absence in the more advanced stage in the presence of general peritonitis and paralysis of the intestine, with general tympanites.

Of the 110 cases, operation was found to have been justified by a condition of mechanical obstruction in 92 cases. In 18 the condition is set down as *ileus paralyticus*. From the 92 he deducts 13 as not having been recorded in detail with respect to the symptoms in question. Of the remaining 79, in only 8 was neither one or other observed, probably because they belong to the neglected cases which had lasted for more than a week. Of the 71 remaining cases, the record of observations stands thus:—

Increased peristaltic movement alone observed in	31
Local meteorism alone,	27
Both together,	13

71

Of the 18 cases found to depend on functional causes, only in 3 could one of these symptoms be observed. This he sets down to the fact that before the escape of intestinal contents into the abdominal cavity adhesions had formed, so actually giving rise to a mechanical complication.

His conclusion is that where we find, in addition to the ordinary symptoms of intestinal obstruction, such as obstipation, vomiting, pains, and distension of the abdomen, also one of these characteristic features—namely, increased intestinal movement and local meteorism, we are in a position to diagnose a mechanical obstruction which can only be radically relieved by an operation. Both symptoms may be present in a case where the segment of bowel involved

is not so small as to disappear among the other coils; on the other hand, the affected segment must not be so large as to obscure the movements of the section of bowel higher up.

Increased peristaltic movement will appear alone when the strangulated loop is very small or lies deep in the abdomen, or when the mechanical obstruction is due to a simple transverse constriction (by band), or by plugging by a stone, tumour, or the like.

Local meteorism, on the other hand, will appear alone in case the strangulated piece of bowel be very large, as, for instance, in the case of rotation of a great portion of the small intestine or of the sigmoid flexure. Here the distended portions of bowel bulge forwards and show through the abdominal wall, but are immovable, giving rise usually to an irregular meteorism where the distended loops of the affected bowel occupy so much of the abdominal surface that the movements of the upper portions of intestine can only be observed exceptionally, or not at all. In presence of a general ballooning of the abdomen without obvious increased peristalsis, and without demarcation of individual coils, we will diagnose functional obstruction (*ileus paralyticus*), which may have resulted either from escape of the contents of one of the viscera into the peritoneal cavity (feces, gall, or urine), or from acute inflammation or irritation of one of these viscera, attended by exudations which may be sub-peritoneal or intra-peritoneal.—(*Arch. für Klin. Chir.*, Bd. 48, Hft. 1.)

Surgical Anatomy of the Middle Meningeal Artery.—In speaking of this vessel and its topography, the older writers would seem to have concerned themselves mainly and almost exclusively with its anterior branch. Steiner, following the method of Marchant, had studied it by projecting its course on the outer surface of 100 skulls. Luschka spoke of a trunk as constant which, after a course of 1 to 3½ cm., broke up into an anterior and posterior branch. In the skulls examined by Steiner a trunk was present in 43 per cent; in the remaining 57 per cent it was wanting—that is, the division into an interior and posterior main branch took place at the foramen spinosum. The posterior branch is always the weaker; the anterior branch represents the main trunk of the older writers. That is to say, we should speak not of a higher or lower division of the artery, but of a higher or lower origin of the posterior branch.

The trunk of the middle meningeal proceeds usually in a course from the foramen spinosum to the anterior lower angle of the parietal bone, following in general the squamo-sphenoidal suture. It may lie in front of or behind the suture—that is, on the great wing of the sphenoid or on the squamous portion of the temporal; but it comes to the lower anterior angle of the parietal.

The posterior branch, given off as we have seen at a variable level, proceeds obliquely, and then almost horizontally backwards above the base of the petrous portion and the groove of the transverse sinus. It is comparatively rich in perforating branches, whose importance in causing hæmorrhage when torn away from their parent trunk by temporary changes of shape in the skull has been insisted on by Bergmann and Wiesmann.

Not only do the trunk and the posterior branch form anastomoses, but the vessels of the two sides do so by twigs arising 1 to 2 cm. above the upper edge of the squamous portion, and proceeding in a fine network towards the vertex. This anastomotic network may increase the difficulties of trephining, and according to Bergmann, the involvement of this region led to ligature of the carotid seven times in the American War.

In trephining for this vessel three methods are commonly quoted:—

1. Vogt's. To find the trunk or main branch the crown of the trephine is to be applied in the angle made by the meeting of two lines, one horizontal two fingerbreadths above the zygoma, the other vertical, a thumb's breadth behind the ascending process of the malar.

2. Witherle and Beck gave it as the point of intersection of two lines—(1) 1½ inch behind the external angular process of the frontal, and (2) 1 inch above the zygoma, or 1½ inch above the condyle of the jaw.

3. Krönlein, basing on the results obtained by Marchant and Merkel, gives the following:—Take a line through the upper margin of the orbit parallel to the base line of the skull. In this two openings are to be made, one 3 to 3 cm. behind the external angular process of the frontal, the other at the point of intersection of this line with a vertical one drawn from the posterior margin of the mastoid.

Steiner also describes two points for the application of the trephine.

The horizontal line runs from the middle of the glabella parallel to the base line of the skull. A second is taken from the glabella to the tip of the mastoid. From the middle of this a vertical is taken. The point of intersection coincides with the anterior inferior angle of the parietal. This method has the advantage over Krönlein's that the point arrived at is higher, that it exposes the vessel where it is free from the bony canal, also that it is specially suitable where the artery arises from the ophthalmic.

For the posterior opening for the posterior branch, the point is situated where the horizontal line already mentioned is intersected by a vertical drawn immediately in front of the mastoid process.

The vessels in these situations may be exposed by turning down a flap of soft parts and bone, including the area indicated. Two cases in which this was recently done in Wölfler's clinic are recorded.—(*Arch. für Klin. Chir.*, Bd. 48, Hft. 1.)

Books, Pamphlets, &c., Received.

Bèri-Bèri: its Etiology, Symptoms, Treatment, and Pathology, with an Appendix containing an Account of 52 Cases and 19 Post-mortem Examinations, by Arthur J. M. Bentley, M.D. Edinburgh and London: Young J. Pentland. 1893.

Two Monographs on Malaria and the Parasites of Malarial Fevers: I, Marchiafava and Bignami; II, Mannaberg. London: The New Sydenham Society. 1894.

Aids to the Mathematics of Hygiene, by R. Bruce Ferguson, M.A., M.B. London: Baillière, Tindall & Cox. 1894.

A Handbook of Diseases of the Nose and Pharynx, by James B. Ball, M.D. Lond. Second Edition. With 49 Illustrations. London: Baillière, Tindall & Cox. 1894.

Diagrams for Recording Cases of Heart Disease, by George Herschell, M.D. London: Baillière, Tindall & Cox. 1894.

The Insanity of Over-Exertion of the Brain, being the Morison Lectures for 1894, by J. Batty Tuke, M.D. With Illustrations and Diagrams. Edinburgh: Oliver & Boyd. 1894.

Myxœdema, Cretinism, and the Goitres, with some of their Relations, by Edward T. Blake, M.D. Bristol: John Wright & Co. 1894.

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ORIGINAL ARTICLES.

SOME CONSIDERATIONS REGARDING THE ETIOLOGY
AND TREATMENT OF BRIGHT'S DISEASE.¹

By J. T. M'LACHLAN, M.B., C.M., DORNOCH.

THE subject I have chosen to-day is—Some Considerations regarding the Etiology and Treatment of Bright's Disease; and, for the purpose of our discussion, let me say that I shall use the term Bright's disease as embracing (1) acute desquamative nephritis; (2) chronic desquamative nephritis (white kidney); (3) cirrhosis of the kidney. I leave out lardaceous kidney.

In these three forms of Bright's disease, albumen appears pretty constantly in the urine, and generally more or less abundantly in desquamative nephritis. Some hold that albumen may be absent for days in the purely cirrhotic form, but this is denied by Johnson, who maintains that, by careful testing, albumen will be constantly detected. As far as my limited experience goes, I agree with Johnson.

It may be well to say something regarding a few of the commonly relied on tests for albumen in the urine. The tests I pin my faith to are—(1) HNO_3 pure added to the urine by a pipette; (2) heat with delicate acidulation; and (3) picric acid (saturated solution). I invariably used HNO_3 first when

¹ Read at a Meeting of the Caledonian Medical Society, held at Inverness, on 22nd August, 1894.

testing for albumen, as it is expeditious, and, I think, a very safe and reliable test, particularly in urines of low specific gravity. If HNO_3 gives a negative result, after waiting a minute or so, I proceed to try heat with delicate acidulation, and then picric acid. It will seldom happen that heat with delicate acidulation will detect albumen in the urine which HNO_3 failed to detect, provided one has patience to wait a few minutes, and view the test tube against a dark back ground. But I have frequently found picric acid show reactions with albumen that both heat and HNO_3 had failed to discover. Under these circumstances, one has difficulty in making up his mind that the fractional amount of albumen thus detected implies renal disease. Such reactions, I may say, I have found in several healthy people, whose urine I had tested out of mere curiosity, and in whom there was no suggestive past history. Of course, one must take care to see that the reaction with picric acid is not identical with that got when mucin is precipitated, or when various alkaloids are present in the urine, through the patient taking drugs. If the precipitate disappears when gentle heat is applied, then we conclude that it is peptones. Johnson lays down the following rule regarding the picric acid test:—

“There is no known substance, occurring either in normal or abnormal urine, except albumen and, in very rare cases, uric acid, which gives a precipitate with picric acid, insoluble by the subsequent application of heat.” Johnson further states that mucin is precipitated by picric only when citric acid and acetic acid are used to acidulate the urine, which is quite unnecessary, unless the urine is very strongly alkaline; and further, he makes the important remark that he has never met with a single instance of peptonuria apart from albuminuria.

I may say it is very surprising how one finds albumen in the urine of people who are evidently not the subject of Bright's disease, and whose past history brings out nothing to imply the kidneys might be unsound, and still more surprising to discover that the albumen in these cases is of a fugitive character. The few cases (three) that have taught me these facts were, in my opinion, the subjects of the lithæmic diathesis, which Murchison has clearly defined in his book on the functional derangements of the liver.¹ According to Murchison, people of the lithæmic diathesis are subject to slight derangements of the liver from slight causes,

¹ Murchison's *Diseases of the Liver*, third edition, edited by Brunton and Fayrer.

which are quite incompetent in others. The most potent of the slight causes he thought were excess in eating and drinking, and he was of opinion that most people ate too much food, thus taxing the liver with too much work, so that crude products entered the blood and disturbed the kidneys, which state of matters, extending over a long time (years), brought about renal degeneration in susceptible subjects. Murchison believed that when too much albuminous food was eaten by people of this type of constitution, that a quantity of the albumen, instead of being converted into urea, was discharged by the kidneys in the less oxidised form of lithic acids and lithates.

Murchison believed the functions of the liver to be—(1) formation of glycogen; (2) the destructive metamorphosis of albuminoid matter, and the formation of urea, and other nitrogenous products, which are subsequently eliminated by the kidneys; (3) secretion of bile. Lauder Brunton, who edits the book, adds other two—viz., (4) excretion of bile, and of poisons absorbed from the intestine; (5) the destruction of organic poisons, either introduced into the intestine from without, or formed within it by the normal digestion or abnormal putrefaction of proteid substances. If Murchison's views are correct—namely, that the liver was the chief seat of the disintegration of albuminous matter, and that it contributed greatly to the process of sanguinification and nutrition of the tissues, then it is obvious how important it is to look to the liver, when the kidneys are deranged, and albumen present in the urine, either temporarily or persistently.

In the three cases of albuminuria I have mentioned, remedies addressed to the liver were effectual in removing the albumen from the urine. I may here add that when the urine was scanty and very highly coloured, and loaded with urates, and *sharply acid*, it was always found to be albuminous. On the other hand, when it looked normal in colour, and specific gravity was normal, and *acidity faint*, there was no albumen; and that further, I have good grounds for thinking that the albumen was closely connected with a hyperacid condition of the urine, as I will explain when we speak of treatment.

Murchison, talking of *hepatic albuminuria*, says—"I have known the urine passed at night to contain albumen often associated with lithates and a high specific gravity, whereas the morning urine was clear, of low specific gravity, and contained no albumen." Again, he remarks "that so often have I observed albuminuria associated with hepatic disorder,

which has disappeared permanently and completely when this has been set to rights, that I have little doubt that we have in the liver a cause of albuminuria to which attention has not hitherto been sufficiently directed." Murchison offers two explanations of this hepatic albuminuria—viz., (1) the liver, having too much work to do, allows some portion of the albumen in the food to pass through in a form that cannot be assimilated; or (2) some defect in the destructive functions of the liver, in consequence of which albuminous matter, instead of being converted into urea, does not even reach the stage of lithic acid.

Murchison's experience led him to regard lithæmia as one of the chief causes of acute Bright's disease. In patients under 20, he says, most cases can be traced to scarlatina. In adults, however, when the attack follows a chill, it will almost invariably be found (according to Murchison) that the patients have previously suffered from derangement of the liver with lithæmia.

Johnson's views regarding the granular kidney are—"It is often associated with the gouty diathesis; of common occurrence in persons who eat and drink to excess, or who, not being intemperate, suffer from certain forms of dyspepsia. You may often learn that a patient of strictly temperate habits has for months or years suffered from pain or uneasiness after food, flatulent distension of the stomach and bowels, habitual looseness or irregularity of the bowels. With this there is often turbidity of the urine, which is high coloured, *excessively acid*, and deposits urates abundantly. After a time the urine gets pale, copious, of low specific gravity, and is found to contain albumen and casts. In such a case, probably the renal degeneration is a consequence of the long continued elimination of products of faulty digestion through the kidneys."

Johnson¹ explains the degeneration of the kidney in this way:—(1) The secreting cells are irritated by the crude products of digestion; (2) the kidney gets too much work to do; (3) the imperfectly assimilated albuminous materials pass more readily by exosmosis through the malpighian capillaries; (4) the dyspepsia lowers the system, and therefore the tone of the capillaries is weak, so that the filter and the fluid, to be filtered, are both materially changed.

Johnson firmly believes that the various forms of Bright's disease are not merely local maladies, but diseases of constitutional origin, the proximate cause being in all probability

¹ *Lectures and Essays*, 1887.

a morbid condition of the blood. He mentions albuminuria being found in association with scarlet fever, diphtheria, measles, small-pox, erysipelas, pyæmia, typhus, typhoid fever, yellow fever, rheumatic fever, malarious fever, cholera, purpura, scurvy, diabetes, syphilis, certain forms of pneumonia, pregnancy, the absorption of secretions from the interior of the uterus after parturition, gout, abuse of alcoholic liquors, excessive eating, certain forms of dyspepsia, a poor and insufficient diet, &c.

Dickinson, discussing the etiology of Bright's disease in his work on renal affections, states that "tubal nephritis due to scarlatina is most common under 10 years, while the form which results from cold is especially apt to occur between 20 and 30." He also remarks that "perhaps the only predisposing cause of tubal nephritis which can be clearly traced is residence in a temperate climate." He is further of opinion that neither tuberculosis or gout predispose to the tubal form of Bright's disease. He believes tubal nephritis to arise from "some unnatural stimulation of the kidney, the blood being charged with material excessive in quantity or unnatural in quality, which these glands take upon themselves to remove. As a consequence of overwork, or of work to which they are not adapted, they take on a turbulent and abnormal activity. They become congested, the tubes get choked up with epithelial growth, and the disease is established." These are Dickinson's views regarding the causes of tubal nephritis.

On the other hand, speaking of cirrhosis of the kidney, he states the following causes:—(1) Gout habit; (2) presence of lead, alcohol, and possibly of some other irritants in the circulation; (3) cardiac causes; (4) pregnancy; (5) prolonged mental anxiety; (6) a general fibrotic tendency affecting many organs and tissues; (7) intermittent fever (?); (8) obstruction to the exit of urine.

Dickinson remarks that alcohol attacks other structures in preference to the kidneys. As causes of renal disease there are other agents. The more obvious and immediate have been previously considered, and are greatly more mischievous; and there is a great atmospheric power which overshadows all the circumstances which tend to produce renal inflammation or granular change.

In Roberts' book on *Urinary and Renal Affections* we find the following remark:—"That complex of impressions which is familiarly known as taking cold is the common cause of Bright's disease in its acute form." Cold, operating more slowly and continuously, also constitutes a prolific source of

chronic Bright's disease. Roberts agrees with Christison that the abuse of spirituous liquors ranks high as a determining cause.

Saundby gives a complete *résumé* in his lectures on Bright's disease of the various etiological factors concerned in its production. He particularises the excessive use of animal food as being a very powerful cause of this disorder. He thinks it acts by increasing the amount of uric acid in the blood, and also a large amount of salts (chlorides, sulphates, and phosphates), which *diminish the alkalinity of the blood*, and prevent the solution of uric acid.

Ralfe,¹ discussing the influence of cold and the frequency of acute nephritis in temperate climates, lays special stress on *damp cold*. He emphasises the importance of lesions of the cutaneous surface in producing the disorder. He quotes a case of extensive burn and psoriasis, and also a case of acute general dermatitis, in which, during the development of the attack, the urine was scanty, dark coloured and albuminous; but, as soon as the inflammatory process was over, the nephritis subsided. He assigns those cases of nephritis brought about by disorders of the skin to the retention in the blood of deleterious excretory products. Speculating on the nature of such products, he says—"Fischer proved, years ago, that sodium butyrate injected into the veins of animals gives rise to nephritis, and that butyric acid is not only a constituent part of human sweat, but also a product of the acid fermentation of pus.

Most authors allow that heredity has some share in the determination of Bright's disease in different individuals.

Ralfe, speaking of cirrhosis of the kidney, remarks that gout, saturation of the system with lead, chronic dyspepsia attended with frequent deposits in the urine of oxalates and urates, and long continued disease of the genito-urinary passages must be reckoned as among the chief exciting causes. Virchow states² he has never seen an acute nephritis which, from the presence of uratic deposit, could be referred to gout. The gouty kidney is essentially the result of chronic interstitial change. Virchow narrates how in 1882 he suffered from acute attack of gout in the fingers, with irritable bladder, pus and albumen in the urine, and a large amount of uric acid. All these symptoms speedily vanished after he commenced taking alkalies (bicarbonate of soda). He attributed the catarrh of the urinary tract to the irritating effects of the

¹ *Diseases of the Kidneys.*

² Ralfe, *Diseases of the Kidneys.*

uric acid. It is difficult to say whether the retention of uric acid in the system is due to increased formation or imperfect excretion from inadequate kidneys. At any rate, excess of uric acid in the blood is clearly associated with conditions which provoke kidney disease.

Gull and Sutton believed cirrhosis of the kidney to be part of a wide-spread fibroid degeneration affecting many tissues and organs, and to be essentially a disease of old age. Bartels' experience led him to contradict Gull and Sutton's assertion, and he thought that "they had been influenced by love for their newly created conception of Bright's disease, and had confounded the changes wrought by old age with true and genuine contracting kidney."¹ Bartels enters his protest against the view, wide-spread in England (although Dickinson certainly disputes its correctness), that the abuse of spirituous liquors favours the development of genuine contracting kidney. Bartels, after saying he has had very little experience of cirrhosis of the kidney brought about by the poison of lead or gout in the system, concludes by saying that "in the great majority of my cases I have been obliged to renounce the attempt to fix upon any circumstances which might be assigned as the cause or origin of the disease."

You have now heard the views of Murchison, Johnson, Dickinson, Roberts, Saundby, Ralfe, Gull, Sutton, and Bartels. They are all, more or less, at one regarding the potency of cold and wet. Murchison and Johnson lay stress on impurities of the blood, which Murchison credits the liver with, and Johnson puts it under the name of digestive disturbances. But we are still far away from the *materies morbi*.

The question now arises, can we have an acute inflammation set up in a gland when that gland is called upon to do too much? If so, we can readily understand how the kidneys would take on an inflammatory action through the functions of the skin, lungs, or bowel being interfered with.

It seems to me that the laws which govern inflammation in animals will be our best guide in solving the problem of nephritis. We have four things to consider. The cells and tissues, the blood-vessels and the blood, the nerve apparatus, and the work these parts are called on to do in different parts of the body. In health, there is a balance between the supply of blood and the work the cells are doing. This balance may be disturbed in various ways, and the phenomena of inflammation be set up. The cells may be overworked and insufficient periods of rest afforded them, so that they do not get time to

¹ Ziemssen's *Cyclopædia of Practice of Medicine*, vol. xv.

organise properly. This is well shown in catarrh of the stomach, where the mucous membrane is more or less denuded and the outer rind, or if one may be allowed the expression, the *collenchyma* is not sufficiently formed. Or through some disturbance in the nerve mechanism the afflux of blood may be too great, more than the cells are quite able to cope with, so as to establish the balance by the excretion of abundant urine, or the *efflux* of blood from the kidney may be impeded, leading to back pressure and tension in the capillaries of the kidney, and impaired nutrition of the gland. If, along with this state of matters, there arise conditions exciting an undue rush of arterial blood to the gland, then the tension in the capillaries may be so great as to cause diapedesis, and all the resulting phenomena of inflammation. We have thus two potent factors:—(1) the balance of the circulation being disturbed resulting in increased tension; (2) the vitality of cells impaired from too much work. These are what I would describe as the local conditions of Bright's disease.

Looking to the general conditions, this is practically the blood. The blood may be pure or impure as far as the condition of the kidneys is concerned. We may take normal urine to mean that the blood reached the kidney in a pure condition. Then if the urine is loaded with urates, uric acid, oxalates, or other substances in excessive quantity, we may assume that the blood was not renally pure. And this leads us to think how gout, or Murchison's lithæmia, or Johnson's flatulent dyspepsia bring about kidney disease. All these things bring about an impure state of the blood, with impaired nutritive powers, so that, as Johnson puts it, the filter and the fluid to be filtered are changed.

Murchison's view was that there was some inadequacy of the liver inherited or acquired, in virtue of which it did not assimilate all the albumen brought to it and convert it into urea, but that imperfectly oxidised products were formed, chiefly uric acid and urates, which accumulated in the blood and brought about what he called lithæmia, and he supposed that these imperfectly oxidised materials irritated the kidneys.

Gout is closely linked with disturbance in the liver and accumulation in the blood of urate of soda.¹ In health only the most minute trace of this salt is detected in the blood; in gout more than one-sixth of a grain has been obtained from 100·6 grains of serum. It is worthy of note that inflammatory action causes the uric acid to disappear from the affected part and its neighbourhood. In cases of chronic gout uric acid can

¹ *Gout*, by Robson Roose.

be always detected in the serum. In acute gout it may be absent between the attacks, but can always be discovered shortly before these take place. In acute gout the alkalinity of the blood is diminished. In acute gouty attacks the urine is scanty and high coloured, and contains less than the normal quantity of uric acid, perhaps only 2 grains instead of 8 are excreted in twenty-four hours. The blood serum can be easily shown to contain excess of uric acid. In chronic gout the excretion of uric acid is for the most part diminished. Oxalate of lime is often found, tube-casts and albumen are by no means rare, and sugar occasionally present. Sir A. Garrod points out that the deposit of urate of soda is the cause, not the effect of the inflammatory symptoms in gout. In gouty nephritis, the kidneys present deposits of uric acid and sodium urate throughout their substance; while their substance is hyperæmic in one class, in another class the kidneys present marked alteration corresponding to those of chronic desquamative and interstitial nephritis. It seems to be agreed that in gouty nephritis the impurity of the blood is to a large extent the undue accumulation of uric acid, and its imperfect elimination from the system.

Regarding the cause of the accumulation of uric acid in the blood, various perplexing theories are recorded. We have already mentioned Murchison's views about the liver. Moderate exercise diminishes, violent exercise increases it; water, alcohol, and quinine diminish; iodide of potassium and chloride of sodium and caffein diminish; inhalation of oxygen diminishes. Carbonate of sodium and lithium have a marked influence on its diminution from the urine. This may be due to the conversion of acid sodium phosphate into a neutral salt, and a consequently diminished precipitate of the uric acid. Acids greatly diminish the excretion, except salicylic. Mineral waters containing the sulphate and chloride of sodium are followed by a decided diminution of uric acid in the urine.

Roose remarks—"It would therefore appear that an increased excretion of uric acid generally occurs when there is decreased energy of the processes of oxidation." Parkes' opinion was that uric acid is not an anterior stage of urea, but has an independent origin of its own in some cells which are specially endowed with the power to form it. He suggests the spleen. Some physiologists, and we may include Murchison, think urea is produced in the liver, and results from the disintegration of the hæmoglobin of the effete red blood corpuscles. Dr. G. Harley thinks urea is not a special product of the liver,

but the ultimate product of all tissue disintegration. Latham's views are that urea is formed from the glycocine (glycine) of the bile. After the fluid has served its purpose in digestion, the glycocine and taurine are returned into the blood, and are carried by the portal vein into the liver. In this organ these substances, together with leucine and tyrosin, are converted into urea. Dr. Latham concludes that the appearance of uric acid in the urine is the result of the imperfect metabolism of glycocine into urea, whether that glycocine be derived from the bile formed into the duodenum, or formed elsewhere in the body.

Note.—In carnivora, urine contains little or no uric acid, the bile no glyco-cholic or tauro-cholic acid, and therefore no glycocine.

Roose adopts Murchison's views in the main concerning lithæmia. He says—"Deposits of uric acid and urates and an imperfect formation of urea are frequent signs of functional as well as organic affections of the liver, while there is experimental evidence of the existence and formation of urea in this organ."

Noel Paton has shown that the liver is the part of the animal economy in which urea is principally formed. He has proved that stimulation of the flow of bile by drugs is accompanied by an increased production of urea, and not merely an increased formation. We have therefore good grounds for adopting Murchison's views—viz., that the liver and kidneys are intimately associated in their functions, and that disturbances in the liver throw extra and unnatural work on the kidneys. One can hardly admit that the increase of uric acid in the blood is *per se* the whole of the peccant matter. It is perhaps more in the nature of things to expect that it is only one of many things that go to render the blood impure, such that the kidneys will be provoked into inflammatory action.

Haig has brought us a step forward in his valuable researches. Haig, quoting Sir A. Garrod, says—"The causes which predispose to gout, independently of individual peculiarity, are either such as produce an increased formation of uric acid in the system, or lead to its retention in the blood." May it not be the case that when uric acid exists in the blood, it is attracted differently by different organs, and thus the spleen and liver more frequently contain appreciable quantities than other tissues? Or, again, may it not be that in some organs, as the spleen, the substance of which, if not acid during life, rapidly becomes so after death,

while the blood remains strongly alkaline, the uric acid becomes less soluble and more easily retained.

Haig adopts the view that excess of uric acid in the blood or body is almost never due to increased formation, but generally to failure of excretion and retention. He says that he was always able with *alkalies* to increase the excretion, and with *acids* to diminish the excretion. Roberts is quoted as saying—"It may be regarded as probable that the defective power of the kidney to eliminate uric acid in gout arises from diminished alkalescence of the blood." Haig says he could vary at pleasure the excretion of uric acid, and that the daily physiological fluctuations in its excretion are due to the same cause, and depend on the amount of solvent alkali in the circulation, *the greatest excretion of the day occurring in what Sir W. Roberts has called the alkaline tide, and the smallest excretion in the high acidity period of the night.* Haig states the normal relation of uric acid to urea in excretion to be 1:33, and that on a meat diet the acidity of his urine was higher, and he excreted less uric acid; while on a vegetable diet he excreted relatively more uric acid, but that this did not mean increased production (rather increased excretion)? Talking of his headaches, he says one grain of uric acid in the blood will not produce them, but 2·3 grains will. He says in cold weather the acidity of the urine is greater, and there is a balance on the side of retention or accumulation of uric acid in the system, and *vice versa* in warm weather. He came to the conclusion that all substances which increase the solubility of uric acid, increase its excretion, and clear it out of the body, and *vice versa*. He mentions alkalies, salicylic acid and its compounds, and phosphate of soda as among the chief substances which increase the excretion of uric acid, and gives the following rule, viz.:—"The excretion of uric acid from day to day and hour to hour is inversely as the acidity of the urine."

The alkalinity of the blood is diminished in all fevers, except such as are complicated by dyspnoea and cyanosis, and the acidity of the urine is increased in all fevers.

Haig, discussing the theories of albuminuria, adopts the views of Semmola—viz., that it is "due to an excess of diffusible albumen in the blood (hetero-albuminuria); the kidney lesions found after death being due to irritation which this foreign albumen eventually sets up in passing through its glomeruli and tubules."

He agrees with Semmola that cold and damp bring about Bright's disease not directly, but indirectly through the

circulating albumens being rendered unassimilable and diffusible by failure in the metabolism of the skin, this unassimilable albumen setting up parenchymatous and interstitial changes in the kidney. He then attempts to show a connection between the presence of excess of uric acid in the blood and Semmola's views.

Dr. Dukes attributes to more or less chronic congestion of the kidney the albuminuria of adolescents, and the Bright's disease into which he thinks it may eventually develop. Haig remarks, "cold raises acidity, fever raises acid, most alcoholic drinks raise the acidity and these last, acting over long years, hold back and retain in the body large quantities of urate which provides the material for eventual chronic and severe uric-acid-æmia in old age, or failure of nutrition; and this uric-acid-æmia is, to my mind, the cause of the chronic nephritis so often found in the *post-mortem* room."

According to Haig, therefore, the retention of uric acid in the blood is a potent factor in the determination of Bright's disease, and this retention is associated with disturbance in the cutaneous and hepatic functions. This practically brings us back to Murchison's lithæmia.

Bouchard, in his *Lectures on Auto-Infection*, points out the comparative frequency of dilatation of the stomach and its frequent association with albuminuria (17 out of the 100). He does not commit himself to the opinion that the fermentative dyspepsia is the cause, but that is the natural inference. And this brings us back to Johnson's flatulent dyspepsia in connection with Bright's disease. We would now conclude this fragmentary sketch of the etiology of Bright's disease by remarking that the conditions which bring it about are manifold; that all things tending to weaken the general health, all things tending to throw too much work on the kidney, and all things tending to disturb the efflux of blood from the kidney are the predisposing causes; while impurities in the blood, whether they be those of lead, or those identified with gout, or infectious fevers, or those arising from hindrances to the due performance of the functions of the skin, or the liver, or fermentative changes in the alimentary canal, are the exciting causes, and the most constant indication of some blood impurity seems to be a hyper-acid condition of the urine.

From the above considerations, the treatment of Bright's disease is somewhat complex. All those conditions which bring it about must be, if possible, removed or counteracted before any permanent good can be accomplished. The glands

must be rested for prolonged periods if active inflammatory processes be present. Johnson accomplishes this object by confining the patient to a rigid milk diet for months, and, if need be, years. The skin should be kept in a highly efficient state by warm clothing, whether in bed or out of bed, by hot or vapour baths, used according to the needs of each special case.

Constipation should be overcome by the least harmful of aperients, of which two cascara sagrada tabloids (Burroughs, Wellcome), followed by a teaspoonful of Carlsbad salts, one hour or so before breakfast, is about the most satisfactory. In this way the portal circulation is relieved, and the functions of the liver restored. Should dyspeptic symptoms persist despite these measures, then artificial aids may be called in—either zymine powders, or peptonic tabloids, or glycerinum pepticum, or other suitable preparation.

In mild cases of acute nephritis, the patient need not be rigidly confined to milk, but simple farinaceous foods may be allowed in limited quantities. In severe cases, however, a rigid milk diet is indispensable, and even in comparatively mild cases, if the albumen does not speedily diminish, then rigid milk diet is absolutely necessary. Johnson gives his unqualified assent. Indeed, to Johnson we are indebted for teaching the profession what can be done by such simple measures, even in protracted cases.

In acute and chronic tubal nephritis, the tubes get blocked by tube casts and desquamated epithelial cells. Hence the necessity for promoting and keeping up a good diuretic flow for prolonged periods. Dickinson advocates nothing stronger than pure water taken in considerable quantities daily. Advantage may be taken, however, of the alkaline diuretics—citrate and acetate of potash, liq. amn. acetat., liq. potass., &c.—given in considerable doses thrice daily. In this way, the acidity of the urine is diminished, and the urates kept in solution. I have seen the albumen diminish in the most remarkable manner by keeping the acidity of the urine very faint by means of alkalies, raising the question in my mind whether it was not actually the presence of some acid salts in the blood which was the noxious *materies morbi*. But this raises the question whether the beneficial effects of alkalies were not due to their supposed action on the liver (Murchison) in conjunction with saline aperients. If the diuretic flow is not sufficiently abundant, other measures, in conjunction with the above, may be used—viz., digitalis, broom, squills, &c. In one case of tubal nephritis, in a man aged 64, I saw the

disease speedily checked by the use of the tincture of jaborandi, and, as the patient had a similar attack three years ago, and was not completely convalescent for six months, the good effects of the jaborandi could scarcely be doubted. There is another diuretic of perhaps unrivalled efficacy—namely, cream of tartar drinks, flavoured with lemon juice. Probably the most powerful diuretic, but the one for ever in operation, is urea. Hence the importance of restoring the function of the liver, if Murchison's views be correct, in regarding that organ as the chief seat of the formation of urea; and, to my mind, Murchison's views are the safest to adopt for practice. A patient of mine was astonished how I could keep her urine clear by administering a morning dose of an aperient mineral water containing sulphates.

Sir H. Thompson lays special stress on the importance of the sulphates of soda, potash, and magnesia, in promoting bowel and liver action, and in their efficacy in conjunction with a suitable diet in overcoming the tendency to gravel and deposits of urates. He cuts down the fats and sugars to a minimum. Sir Henry's treatment might be adopted as prophylactic, but something more is required when the disease is established. Tonics are required sooner or later to assist in the restoration of the impoverished blood. Iron is the chief, and perhaps Fellows' syrup is about the most pleasant.

Johnson speaks of the good effects of quinine and mineral acids, probably through their action on the stomach, with a glass of Hunyadi Janos mineral water in the morning. In this way he removed an albuminuria of seven years' standing, and there were good grounds for thinking that his patient suffered from derangement of the liver as well as the stomach. In the treatment of Bright's disease, Johnson puts a rigid diet first in the order of efficiency. But Johnson's milk diet not only rests the damaged organ, but rests the stomach, rests the liver, and is accompanied with good effects all round.

Even on a rigid milk diet, dyspeptic symptoms may continue and hinder the progress of the patient. In such a case the milk must be well diluted with barley water, or an alkaline aerated water. I have notes of two cases of tubal nephritis, in which the patient was strictly confined to a rigid milk diet for six months, and with the happiest result. Habitual purgation is to be avoided, as it weakens the patient, and withdraws a certain amount of fluid needed to maintain urinary flow. Purgation also removes the digestive juices and ferments which are much needed in such cases.

When dropsy is very severe, and the lungs cedematous, and

the breathing difficult, it is customary to have recourse to violent purgation with compound jalap powder or elaterium. But I think it is much sounder practice to endeavour to get rid of the dangerous accumulations by the natural channels—viz., the skin and kidneys. Sir James Simpson's poor man's bath is of great service in such an emergency, along with a diaphoretic and diuretic mixture, such as the combination of citrate of potash and tincture of jaborandi. If need be, the patient may be enveloped in blankets wrung out of boiling water.

If uræmic convulsions set in, there is nothing that controls them so well as the application of half a dozen leeches to the loins, the blood encouraged by hot fomentations. In this way the renal circulation is directly appealed to, tension more or less relieved, and the renal secretion brought back. I have seen this succeed after repeated hypodermic injection of pilocarpine had only secured temporary respite from the convulsive seizures.

In some cases stimulants may be required to prevent the patient dying from heart failure. This is apt to arise in cases of severe dropsy with loaded lungs, where the pulse is a mere flicker. In one such case I have given whisky hourly, until the renal flow was brought back. It is only in such an emergency that stimulants should be tolerated; at all other times they should be rigidly avoided.

When convalescence has well set in, some extension of the dietary may be allowed and may indeed be advisable, provided dyspeptic conditions can be kept away. Boiled white fish, cocoa, bread, biscuits, stewed fruits, porridge made with Scott's Midlothian oatmeal flour or Grant's oat flour, chicken, tripe, bacon, butter, marmalade, and other simple things may be taken in suitable quantities and at suitable hours. It is perhaps better to give four light meals daily than three substantial ones, and porridge makes the best supper. Tea and coffee, potatoes, pastry, red meats, cheese, and other such foods should be avoided. Tonics are now of paramount importance. Quinine and mineral acids, alternating with ferruginous combinations, with strychnine, are perhaps the best. Smoking and stimulants are the last things to think about. It seems likewise advisable not to ply the patient with meat-extracts or concentrated soups, while well stewed green vegetables are advantageous. When convalescence seems protracted, a sea-voyage, or a residence in the tropics, may be the one thing needful.

In regard to baths: cold baths should be avoided, as the patient stands cold badly and reacts imperfectly. On the

other hand, local douches of hot and cold water to the loins, while the patient sits in a Sitz bath before a fire, may be of great service in stimulating the capillaries of the kidney to contract, just as, in the same way, piles and congested wombs are greatly benefited by such measures. But we must be sure before using such measures that we are dealing with weakened venules in the kidney rather than an active inflammation before we can expect remedial benefit. To my mind, if the urine is free from albumen before meals and contains traces after meals, the local bracing effects of douches might be employed. Graves, in his work on clinical medicine, narrates how he has removed post-scarlatinal albuminuria by causing pitchers of water to be poured down the spine of a patient.

In cirrhotic kidney the difficulties of treatment reach the culminating point. The etiology is obscure and perplexing, hence the treatment is vague and uncertain. Iodide of potass. seems to be the only drug that has effected much good. Bartels speaks favourably of it. On the other hand, Dickinson has seen change of climate work nothing short of a cure when the disease was not too far advanced. It is in such cases that we are apt to cast longing eyes on the surgeon and ask him to treat the kidney in the same way as he would treat chronic inflammation of a bone. Here I bring my remarks to a close, offering as my apology, for encroaching so long on your attention, the importance of the subject, and the necessity for adopting broad views concerning its nature and treatment.

THE SEQUEL OF A SPURIOUS PREGNANCY.

By JOHN G. HAVELOCK, M.D.,

Senior Assistant Physician, Montrose Royal Asylum.

YOUNG unmarried women of a hysterical temperament, after illicit intercourse, not infrequently closely simulate the symptoms of pregnancy, and no harm results; but an outbreak of religious excitement in eleven persons, terminating in acute mania, which followed on such a case, is, perhaps, worthy of record.

In a small country town there resides a family of well-to-do artisans, with a history free from any trace of insanity. The parents are in the prime of life, while their four sons and five daughters are adolescents. The favourite daughter, a shop assistant in a neighbouring city, at the beginning of this year

falling into bad company was seduced, and soon afterwards, alarmed at the suppression of her menstruation, consulted a medical man, who suggested the possibility of pregnancy.

Returning to her home in a state of great mental perturbation, she locked herself into her bedroom for several hours. When interrupted by her friends, she was found to be in a state of religious ecstasy, declaring that she had communed with God, who had revealed to her that she was about to die, and that Christ would appear to receive her into His arms.

Moved by her earnest protestations, the family gathered round the bedside, and sent off for her father and brothers, who were working in neighbouring towns; and, influenced by the contagion of her example, began also to engage in prayer and anticipate the immediate coming of Christ.

When the father arrived on the scene, he found the whole family in a state of great religious excitement; his house had been divided by them into a part they called "heaven" and a part called "hell," the mother, who did not completely fall in with their views, having, of course, been consigned to the latter division.

Attempts by the parents to reason with and control their children were unavailing; unable to stem the torrent, the father and mother were soon as excited as the rest. For several days matters went on in this way: little food was taken, there was no sound sleep, day and night were spent in religious exercises in preparation for the immediate coming of Christ. The mental symptoms in all consisted of a state of ecstasy, with hallucinations of sight and hearing, and an overpowering desire to pray and preach.

At the end of a week the father came to his senses, and made strong efforts to induce his family to resume their ordinary mode of life. During an altercation which ensued, the eldest son jumped through the window in a semi-nude state, followed closely by the daughter who had been the originator of the mischief. Both were at once arrested by the police, and, having been certified to be insane, were consigned to the nearest asylum.

On admission, the male patient was found to be a well developed, muscular man, with no evidence of bodily disorder. He was wildly excited, gesticulating, and shouting in an incoherent way, with hallucinations of sight and hearing. During the first week he did not converse rationally, had well marked hallucinations, and was very restless and noisy at night. Improvement then rapidly set in, and at the end of a fortnight he was discharged recovered.

The female patient showed very similar mental symptoms. She, however, was more coherent, and gave a rambling account of her seduction, always winding up with, "But my sin is forgiven me; what man put into me God has taken out of me." She had many of the signs of pregnancy—*e.g.*, amenorrhœa of some months' duration, a milky fluid could be expressed from the enlarged breasts, and the areolæ were altered. In the course of a few months, coincident with an improvement in the mental condition, these spurious signs of pregnancy disappeared, and the patient ultimately completely recovered.

The remaining members of the family, sobered by the removal of the ringleaders, soon resumed their ordinary way of life, and have remained well since.

Remarks.—The history of this case is of considerable interest when we compare it with the origin of the outbreaks of epidemic insanity occurring on the continent of Europe during the Middle Ages. For instance, we read that in 1260 a boy in Perugia prophesied a great calamity, and thence arose the famous epidemics of *Flagellants* and *Scourgers* which spread throughout Europe. More recently in Sweden (1841-42) there was a well marked epidemic of *religious ecstasy*, which affected a large number of the country people in the recesses of the kingdom, and was attributed to poverty and the action of fanatical excitement. Modern civilisation has rendered widespread epidemics of insanity almost impossible; the fanatic of to-day, who in remote ages might have swayed thousands, finds himself after a short career within the walls of a lunatic asylum.

A CASE OF GENERAL BILATERAL PERIPHERAL NEURITIS, WITH RECOVERY.

By GEO. S. MIDDLETON, M.A., M.D.,
Physician to Glasgow Royal Infirmary.

ON 11th May, 1893, there was admitted under my care in the Royal Infirmary a man, D. M'D., 23 years of age, a worker in a distillery, who was suffering from more or less general paresis.

The history bore that on 8th April, 1893, he travelled from Glasgow to Fort George to undergo a period of training in the

militia service. On that evening he went to bed all right, but he perspired profusely before rising in the morning, and during the next day he was exceedingly cold and shivering. About 6 P.M. on 9th April he was seized with a severe pain in both ears, which soon afterwards extended across the neck from ear to ear. He described the pain as "boring" in character. A few hours later his speech began to fail, the affection being simply one of articulation, as he always knew the words he wished to use; and, by the 12th April, he was unable to articulate a single word.

On 10th April he lost the power of mastication. He not only could not masticate solid food, but he had difficulty in swallowing fluids even, and for seven days he took nothing but a little water. This water never seems to have found its way into the larynx, nor to have been regurgitated through the nose. On the same day he also noticed a lump about the size of a hen's egg in front of his neck immediately under the jaw, and a number of smaller ones between this and each ear. There was no sore throat, and no soreness in the mouth. These swellings received no local treatment, and gradually disappeared about 15th April.

On 12th April he suddenly lost power over both arms and legs, this loss of power being preceded by no abnormal sensations other than those to be mentioned below. For a week all his limbs remained practically powerless; although he was occasionally able to move them a little, he was generally quite unable to do so. From 10th to 20th April in his palms and soles he had burning sensations, which, on the latter date, gave place to absolute anæsthesia of these parts.

"Since his present illness began he has occasionally suffered from the girdle sensation. He has also had pain in the chest, principally in the præcordial area; he has suffered more or less from this for three years, but it is now worse than it has ever been. Since 12th April he has also had some difficulty in breathing, particularly when he lies on either side. He has had two attacks of gastralgia, followed by vomiting, the last on the day of admission. On that day also he fainted in the receiving room, and seems to have remained only partially conscious for over an hour, the receiving physician being afraid that an apoplectic seizure was coming on. His bowels have been obstinately constipated; he had no motion from 8th April to 7th May. Micturition has not been affected. He never had any shooting pains in the arms or legs, and never any tenderness on pressure of the limbs. He has had no headache. He states that the sense of taste was impaired,

if not lost. Vision is said to be unaffected, and he has never had diplopia. The sense of hearing has been impaired ever since the pain in the ears commenced. The sense of smell has been unimpaired. He says he felt feverish, but he had no sweating except on the night of 8th April. Sleep



FIG. 1.

D. M.D., May, 1893.

has been interfered with by the pain, first in the neck and afterwards in the breast.

"He was in the hospital at Fort George from 10th to 21st April. When he left, he was able to walk with the assistance of a person on either side of him. He arrived in Glasgow on 21st April, but he was not seen by a doctor

till 30th April, when Dr. John Lindsay was called in, who found him 'complaining of sore throat and great general weakness. He had come from Fort George Hospital, where pellets of chlorate of potash had been prescribed for him. Of the previous history, I remember only that he had suf-



FIG. 2.

D. M'D., September, 1894.

fered severe pain running down the sides of the face from both ears, but from what he told me I formed the opinion that he had had influenza, and was then suffering from the prostration following it. A few days afterwards my attention was called to his mouth, when I found that he could not close his lips, though he could move his jaw. I have no

doubt this had been there from the beginning, as I had noticed that he spoke in a thick and slovenly fashion, which I set down to his usual habit. At the same time he complained of a feeling of constriction round the waist. I found the knee-jerk and ankle clonus absent from both legs. He said there was a want of feeling in his feet. He could not walk in a straight line, nor stand with his eyes shut. He said there had been no pains in the limbs. The pupils reacted to light and near distance. I saw no change in him during the week I attended.'

"14th May.—There is evident want of expression, affecting both sides of the face, the naso-labial and other lines being absent. His lips are kept open about a quarter of an inch. The visual aperture is, perhaps, small. The pupils are normal in size, and respond both to light and to accommodation. The muscles of the eyeballs are all apparently normal in their action. There is a trace of lateral nystagmus, but the oscillation is possibly not greater than may be met with in a normal subject. There is no diplopia. As tested with printed matter, there is no defect of vision. There is no suffusion of the conjunctivæ, and no protrusion of the eyeballs. There is no ptosis, but he is unable to close the eyelids, apparently from inability to lift the lower eyelids. The conjunctivæ are much less sensitive to touch than normal, and, on bringing an object suddenly before his eyes, there is absence of the normal reflex closure of the lids. There is complete inability to wrinkle the brows; there is also complete inability to close the lips, so that he cannot even attempt to blow out the cheeks or to whistle. The buccinators are apparently completely paralysed, but, on passing the finger further backwards in the mouth, the masseters are found to contract rather forcibly, and, as tested by the action of the teeth on a cork, the muscles of mastication are now apparently acting normally. He can protrude the lower jaw, but not far, and he can move it from side to side. He protrudes the tongue readily, and with only a slight deviation towards the right side. The right side of the tongue looks a little smaller than the left, but there is no wrinkling of its surface, and on palpation it cannot be said to be definitely smaller on that side. There is no deviation of the uvula, and the soft palate moves with perfect freedom, but the arch on the right side droops a little as compared with that on the left. The senses of smell and taste are perfect. He can drink fluids, but in doing so he supports the chin and lower lip with his hand

so as to prevent dribbling. This action he has been taught by experience. His power of hearing as tested by the watch is perfectly normal. He admits having had noises in his ears when the pain was severe, and even still, although not so markedly as before. The movements of the larynx and trachea in swallowing are normal. There is no tremor of the lips, and only slight tremor of the tongue on protrusion. During conversation it is evident that his speech is markedly affected, mainly owing to loss of power in the lips. On testing him with the various letters of the alphabet, 'b' is pronounced 'e;' 'd' and 'l' are indistinctly articulated; 'm' is slurred, and has a nasal sound; 'n' is more clearly enunciated, but not properly; 'p' sounds like 'he;' 'v' is also slurred, sounding like 'e' with a trace of 'f' sound before it; 'w' is apparently affected solely because of the 'd,' 'b,' and 'l' in the word 'double;' 'y' also is somewhat slurred. His voice, as a whole, has also a nasal twang.

"On testing the power of common sensation in the tongue, he fails to distinguish two points as such at a distance of one inch apart when rapidly applied; but when the points are allowed to remain in contact for some time, he distinguishes them at a distance of half an inch apart. On the forehead he fails to distinguish two points as such at a distance of little more than half an inch, while on the cheek he readily distinguishes them. In the finger-tips of the right hand he recognises two points at a distance of half an inch, while in the fingers of the left hand he is not accurate up to an inch and a half. There is no distinct anæsthesia of any part of the skin of the face or scalp, but sensation of the skin of the posterior half of the face and head is slightly less acute than that of the forehead and cheeks. In the finger-tips he is not very accurate in distinguishing sharp from blunt points.

"His grasp is feeble, the maximum of each hand with the dynamometer being 30. There is no absolute loss of power of any of the movements of the hands or arms; but there is distinct impairment, and there is slight tremor of the muscles when the hand and arm are extended. There is no paralysis of the intercostal muscles, but the action of the diaphragm is enfeebled, if not wholly lost. As he lies in bed the movements of the feet and legs are properly carried out. He walks with some difficulty, staggering a little, and he is unable to walk with steadiness on a single plank. He cannot stand with the eyes shut and the feet close together.

Sensation in the legs is apparently good; there is no analgesia and no decided anæsthesia. The superficial and deep reflexes are entirely absent. There is no ankle clonus.

“Respiration is entirely thoracic, the epigastrium being drawn in on inspiration.

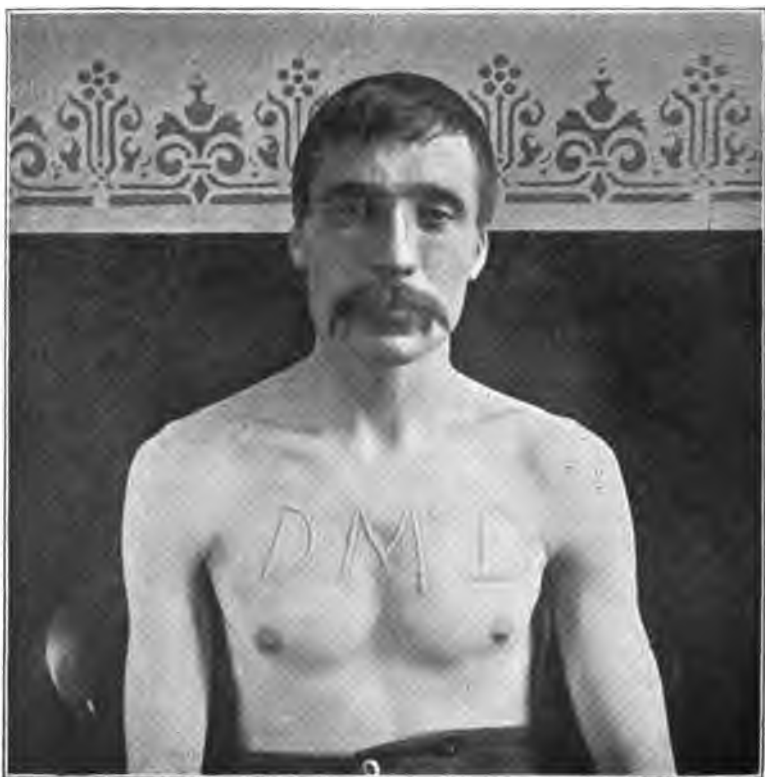


FIG. 3.

Reproduced from photograph of writing on skin.

“He believes he has lost a considerable amount of flesh, but this affects generally all the muscular tissues.

“On testing for the *tache cérébrale* there is a very striking reaction. A broad band of redness immediately shows itself in the course of the track of the pencil point, and out of the redness there gradually rises a white elevation like the

wheals of nettle-rash. Both redness and wheals persist for a considerable time, the redness for at least half an hour, and the wheals for an hour and a half.¹

"The internal organs are all healthy, and there is nothing discovered about the heart to account for the pain spoken of.

"Since admission, desquamation about the fingers has been noticed."

He was put on *nux vomica* and the galvanic current, and he almost immediately began to improve. The improvement in regard to the paralysis was progressive, but he had several attacks of præcordial pain.

On 6th August it was noted that "yesterday night, after having felt better during the day than he had done since his illness began, pain in the præcordial area became exceedingly severe, and at the same time he was attacked by severe pain across the front of the neck and boring into the ears, such a pain as was a feature of the beginning of his illness. He also directed attention to two small hard swellings behind the angle of the jaw on each side. In spite of the administration of antipyrin, he hardly slept at all last night on account of the violence of the pain."

"9th August.—After some improvement, pain again came on last night in great severity, almost entirely preventing sleep. His temperature, which had been practically normal since admission, only occasionally rising as high as 99·4° F., rose on the 6th inst. to 100·6° F., fell to normal on the 7th inst., and remained so till this morning, when it rose to 100·4° F. These attacks of pain have not been accompanied by any loss of the muscular power which had been regained."

Improvement thereafter was continuous and satisfactory, and there was no recurrence of pain or rise of temperature. The final note (11th September) bore that he was leaving that day to resume work. "The only paralysis now left is on the right side of the face, especially affecting the muscles

¹ This is the phenomenon known in this country as factitious or graphic urticaria, but perhaps better called by the non-committal name of dermatography given to it by MM. Ch. Féré and H. Lamy, who published, in the second volume of the *Nouvelle Iconographie de la Salpêtrière* (1889) an article on the subject. The phenomenon is said to be common among the subjects of urticaria; but it is also met with, as in this instance, in those who have no tendency in that direction. Personally I would regard it, in the degree present here, as a very rare occurrence. It is even now (September, 1894) readily elicited in as marked a form as ever, and I doubt now whether it had any connection with the patient's illness, as it may have been a feature of his condition long before his illness came on. It is also very doubtful whether, in such a case as this, it really can in any way be connected with urticaria.

supplied by the lower branches of the facial nerve, but even these are by no means completely paralysed. Sensation is now practically normal, both in the tongue and in the fingers. His grasp registers the maximum of the dynamometer on the right (130), and 125 on the left. His walking is perfect, and the knee-jerks have returned. The *tache cérébrale* remains as it was."

"2nd April, 1894.—Since he was last seen he has put on flesh and gained strength. The dynamometer now fails to register his grasp with either hand. Sensation is perfectly good. The knee-jerks cannot be elicited. There is still some paralysis of the lower portion of the right side of the face, and his speech continues to be slightly affected."

In September, 1894, his condition remained as in April. As will be seen from the photograph (Fig. 2), there is no appearance of facial paralysis; it is only when the muscles are tested that a trace of paralysis is discovered.

Enquiry as to the causation of his illness discovered nothing beyond the sweating and the chill noted in the beginning of the report. He was an intelligent man who seemed to give candid answers, and there was no reason to doubt his statement that neither alcoholism nor syphilis was to blame. He could give no history of influenza or other specific febrile condition prior to the onset of the attack, and he was not rheumatic. At his work he was exposed to heat and cold, and he had often very heavy lifts; but during the four years he had been in Glasgow he had never lost a day's work. Prior to coming to Glasgow from Stornoway, when the pain in the breast first commenced, he had had a severe hæmoptysis, but this had never been repeated.

I have called this a case of general peripheral neuritis, and I think justly so. The paresis of arm, leg, and face on both sides, the involvement of the diaphragm, the sensory disturbances, and the loss of the reflexes, all point in the direction of that diagnosis, which to my mind is confirmed by the dyspnoea, fainting, gastralgia, and constipation—all these appearing to me to have had their origin in an inflammation of the nerves supplying the viscera affected. I cannot conceive of a central lesion of the brain giving rise to the complex of symptoms presented by this case. Had such a lesion been in operation, the order of development of the symptoms could scarcely have been that met with, and, besides, it would all but certainly have proved fatal.

It is noteworthy that the parts first affected were the last

to recover, and in fact have not even yet returned to their normal condition.

It is not easy to explain the occurrence of the neuritis. I am satisfied that it was neither alcoholic nor syphilitic. I thought at first that it might be due to influenza, as I had seen, as a sequel to that disease, a general peripheral neuritis of a similar character which, however, proved fatal from paralysis of the muscles of respiration; but no history could be obtained of his ever having suffered from that malady. There was no reason to suspect that he had been recently affected by any of the specific fevers, or by any metallic or other poison. One was almost forced, therefore, to the conclusion that his illness had been due to cold and exposure, or that it was of rheumatic origin. Whatever the causation, the result was extremely satisfactory.

ON TWO CASES OF CYSTITIS.

By A. GALBRAITH FAULDS, M.B., C.M.,

Assistant to the Professor of Surgery, St. Mungo's College.

MY object in recording two cases of cystitis is to put before the medical profession a new treatment for obstinate forms of that disease, which, in two such cases, was attended with the most perfect result, in so far that the disease has not yet returned after the lapse of four months in one case and five months in the other.

Before doing so, I should like to point out this peculiarity of both cases—that in neither could the slightest history of any cause be found to account for the malady. I may state here that it has been my experience, with a considerable number of such patients, that a cause for the disease is often as difficult to find as a drug or combination of drugs to cure it.

Mrs. L., æt. 37, was fourteen years married and had no family. Her attention was attracted by the frequency of micturition and the small quantities of urine passed, and by pain, at first slight but increasing gradually for several weeks, till she consulted her doctor, who tried (as I afterwards learned) all that could be read and thought of, without the slightest amelioration of the symptoms. It was at length feared that some tumour or ulceration of the bladder existed,

and I was asked to see her with the view of examining the bladder with the cystoscope. With the exception of a little mucus in the urine, nothing could be found either in it or in the bladder to account for the disease, so we tried copaiba, with as flattering results as the former treatment. At last, being driven to do something, and being a little ashamed of the non-success of our combined efforts, I suggested giving the bladder a complete rest, which we found to have the desired effect. The manner of so doing is presently to be described.

The other case was a lady of nearly 60 years, who had a large family, and was of a suspiciously gouty appearance. In her case I found the urine also normal. There was no malposition of the uterus or constitutional or mental hebetude to account for the cystitis. The cystoscope here likewise only showed a very vascular and injected bladder without tumour or ulceration. The disease resisted all treatment, including the fashionable balsam.

In this case, too, I reasoned that when a limb, or an eye, or any other organ was inflamed it was put to rest, then why not the bladder. This was done, with a favourable result, and in the following manner:—

I injected the bladder with cocaine. I then cut a long strip of boracic lint, having a bulk when rolled up of the size of a large orange. This I introduced carefully through the urethra into the bladder, leaving two ends outside to act in drainage of the urine. The introduction was effected by dilating the urethra with a pair of dressing forceps and probe, but it could be more easily accomplished through an aural speculum, thus saving the epithelium of the urethra. I left the lint in for several days. The agony was very great for the first twenty-four hours, and was said to be greater than the disease itself by one patient who afterwards had the utmost relief. The usual diet was given, and after the removal of the pack, which was withdrawn with the greatest care, no symptoms of the disease recurred in either case.

It may be asked why the above method is better than emptying the viscus and keeping it so. I argue that this is not giving the bladder a true rest, for I believe that the bladder does not get so good a blood supply as when it is half distended or nearly so. Besides, the boracic acid in the lint would have a soothing effect, which would assist in no inconsiderable amount to the success of the treatment.

For evident reasons, this form of treatment is at present impracticable in the male.

At the same time, I do not consider this a treatment that should be adopted in every case of chronic cystitis in the female. It is only after a careful investigation of the cause, and after the usual treatments have failed, that the prudence of the practitioner should resort to this line of treatment.

"LOURDES," BY EMILE ZOLA, FROM A MEDICAL POINT OF VIEW.

BY JANE B. HENDERSON, M.D., BRUX.,
L.R.C.P & S., EDIN., M.P.C.

THE book named above is not a novel in the ordinary sense of the word: indeed, it is a little difficult to know under what heading it should be classified, but any one who has read the book will agree in thinking that a short criticism of it is not altogether out of place in a medical journal.

The subject of the book is the annual pilgrimage which is made to the shrine of Our Lady of Lourdes, and we have a minutely detailed account of the events of the five days which elapse from the time of leaving Paris till the return of the pilgrims to their starting point. Incidentally there is introduced a complete history of the origin of the shrine, and of its growth in popularity and wealth. In consequence, the reader who opens the book with a consciousness of knowing very little about the shrine or the pilgrimage, finishes it with such a complete knowledge of both that he may even begin to wonder if he has not actually been present and taken part in it all.

The pilgrims from Paris are travelling by the white train, which is specially set apart for the transport of invalids. It is a moving hospital with three hundred patients, each one of whom is supposed to be beyond the reach of ordinary medical aid. The most of the third class passengers are travelling at the public expense, and have their hospital cards suspended from their necks as if they were labelled. They are cared for by sisters in the white caps and the distinctive dress of their religious order, and also by ladies who assume the duties of nursing sisters as an annual act of devotion. A special car is attached, where a doctor keeps a small supply of drugs and a sister prepares beef-tea and other articles of invalid diet, which can be distributed at the various stopping places. There is also on the train a priest with the holy oil, ready

to administer extreme unction to those who are unable to reach the end of the journey.

We are introduced in detail to the travellers in one compartment, and we follow their history from one end of the journey to the other. We are also interested in a family party who travel second class, and in a wealthy lady, travelling with her husband and sister, surrounded by all the luxury that can be obtained for money.

The third class patients form a very sad group of hopeless cases, as will be seen from the following short note of each:— (1) Rose Vincent, a puny tubercular child of 7, whose father died of phthisis. The little one has been ill for fourteen months, and is now apparently in the last stage of tubercular meningitis. She sits on her mother's lap in a state of stupor, opening her eyes at intervals for a moment, and uttering only a feeble cry. The mother, who is a needlewoman, has saved up for this last effort of despair. (2) M. Sabathier, aged 50, suffering from locomotor ataxy, with complete paralysis of both legs, is going for the seventh time in the hope that now at last he will be cured. (3) Brother Isidore, a missionary from Senegal, suffering from tropical inflammation of the liver, with an abscess of the liver which refuses to heal after discharging externally. (4) Madame Vetu, with cancer of the stomach with its accompanying hæmorrhage and pain. (5) Man whose history is unknown. He is unable to say what he suffers from owing to his extreme weakness, and eventually he dies before reaching his destination. On the return journey M. Sabathier occupies his old place, but none of the others mentioned are present. Brother Isidore and little Rose die in front of the shrine and Madame Vetu in the hospital at Lourdes. Of those who return, there is (6) La Grivotte, a poor mattress maker, in the third stage of phthisis, with a bad cough and frequent hæmorrhage from the lungs. (7) Elise Rouquet, with lupus of the face invading the nose and mouth, and rendering her a gruesome spectacle. Most important of all, we have the heroine of the book, Marie, of whom more anon.

The details of this terrible journey of twenty-two hours are not left to the imagination, but are related with unpleasant minuteness and vividness, and, as the train rolls on for ever amid the sultry heat of an autumn day of threatening thunder, one begins to long for the end of the journey, and it is a great relief when, at Poitiers, a newcomer enters the carriage and helps to break the awful gloom. This is Sophie, the best attested cure of the preceding year, who is going now to return thanks to the

Virgin. She had suffered from a sore foot supposed to be due to disease of the bone, and an incision had been made by her doctor, and was still covered with dressings when she went to Lourdes. She dipped her foot, dressings included, in the sacred water. The dressings remained in the water and the foot was withdrawn quite sound, showing only a firmly healed scar at the site of the incision. On returning home, the doctor saw it, and said, "Whether it was God or the devil it is all one to me, but the truth is she is cured." The incredulous may doubt the truth of this account, but, on considering it closely, we find that there is only one omission in the details, and that is the time that elapsed between the various events. It is stated that the doctor made an incision which required surgical dressing, but we do not know for how long these dressings had been continued. It is scarcely necessary for me to point out that children and adults of weak intellect are very fond of being bandaged. If a little child gets a slight cut and has a rag put round his finger, it is with some difficulty that he can be persuaded to leave it off when the cut is perfectly healed. In the same way, little Sophie, who is distinctly childish even at 14 years of age, may have continued to cover up her foot long after the necessity had ceased, and thus, without any intention of fraud on her part or on the part of anyone else, she was able to appear as miraculously cured when the sudden removal of the dressings in the sacred water convinced both herself and others that her foot was cured.

The train arrives at last at Lourdes, and in the dim light of early dawn the patients are removed from the train, and, by the aid of an army of helpers with litters and waggons of all sorts, they are eventually distributed to the hospitals and other places awaiting their reception. During the time spent at Lourdes the pilgrims are taken to the Grotto, where the image of the Virgin is placed. They are also dipped in the water in the pools that have been prepared, and they may drink the water and fill their cans and bottles at the fountains, where the taps are free to all; and continually there is the cry to heaven, from the thousands assembled from all parts of France, for the cure of the sick.

Elise Rouquet, with the dreadfully disfigured face, spends the hours of the first day bathing her face in the cold water, which is of a temperature of about 48° F., and in the afternoon, after many hours of such applications, she reports herself at the medical bureau as conscious of some improvement, and the doubtful man in the book admits it as a fact, and continues to admit a progressive improvement, till we lose sight of the

patient at the end of the journey. Continuous sponging with cold water is not usually considered a satisfactory treatment for lupus; but Crocker, in his book on skin diseases, divides the local treatment into two classes—the first class being rather palliative than curative, the object being to diminish hyperæmia and so favour involution. I do not know whether anyone will agree with me in thinking that the application of cold water, as described above, might act as well, if not better, than calamine lotion. Perhaps some one else will supply a better explanation.

La Grivotte, in advanced consumption, expressed herself as cured after the first bath, and continued in a state of excitement and joy till the return journey, when the inevitable collapse supervened.

Marie, the chief figure in the book, is 22 years of age. When 14 years old she experienced a fall from a horse, and since then she had become more and more of an invalid. Puberty was delayed, she suffered pain, and lost the power of walking, so that for the past seven years she had been confined to a couch, which was placed on wheels when she was taken outside. The diagnosis in her case was obscure, and treatment was in vain. When at last it was decided that she should go to Lourdes, the doctors held a consultation, and the two of the old school decided that it was a case of spinal paralysis, and certified accordingly. The third who was present was a young man, more accustomed to the methods of the Salpêtrière, and we are not surprised to find that his diagnosis differs, and that he prophesies a cure during the excitement of a visit to Lourdes. This opinion is expressed privately to Pierre, the young priest, who is the old friend and playfellow of Marie's childhood, and he does not repeat the opinion, so Marie goes to Lourdes as a well authenticated case of spinal paralysis. The initiated reader expects a cure, and feels about as disappointed as the patient when, at the close of the first day, after hours of devotion at the Grotto and a bath in the pool, the patient shows no sign of improvement. The climax is reserved for the third day, when Marie has been wrought into a state of exaltation by the sight of the long procession of myriads of candles, as if the Milky Way had descended to the earth. This is followed by a whole night of solitary devotion before the Grotto, and mid the silence of a starry summer night. It is here that she receives the conviction that she will be cured during the procession of the Holy Sacrament in the afternoon. She waits in this state of tension till then, and when the procession approaches, amid the cries and prayers from thirty thousand throats, she rises

on her couch, stands erect, and exclaims, "I am cured!" and, as the excited crowd became conscious of the fact, the words of the "Magnificat" rose as a mighty thunder of adoration. The cure was undoubted and complete, and the reader, who has expected it from the beginning, has a feeling of satisfaction when it is actually accomplished.

Marie became thus the most conspicuous and satisfactory miracle of the year, and, in spite of the number who remained uncured or whose places were for ever vacant, the crowd were able to return home rejoicing in the hope that for each one the day of cure would come at last—if not this year, perhaps next year.

It is not possible here and now to enlarge on the various psychological features which may be studied in the book before us. I would only, in conclusion, add a little on the general subject of miraculous cures. They are not by any means confined to the adherents of the Roman Catholic Church; as "faith cures" they may be found scattered over Christendom. The influence seems to come as a wave over a district and then pass away; thus in many places will be found evidence of former enthusiasm and possible cures. Even phlegmatic Presbyterians in Scotland have felt the influence of it, and, if I mistake not, there was a wonderful cure on the shores of the Gareloch in the early decades of this century; and I have been told how the "faithful" tried to cure a little boy at that time. After the necessary prayers and exhortations, his crutches were taken away, and they said, "Walk, man, walk!" Alas! faith was insufficient, and all the little boy could do was to say, "Please, mem, I canna!" I once had the opportunity of meeting a lady who told me that she had been cured by faith after a period of invalidism lasting for some years. Her case was probably similar to that of Marie, and there was no reason to doubt the truth of her statements. There is no doubt that faith and hope are valuable therapeutic agents, and we all try to administer them in small doses along with the pills and potions. It is not so easy to administer large doses of faith; but in many cases, if we could only manage to convince people of the power they possess in their own will, the first steps towards their recovery would be gained.

[*Note.*—It was noticed in the *Glasgow Herald* one day recently that the striking miracle this season was of a lady from Edinburgh. It would be very interesting if her Edinburgh doctor would publish an authentic statement of her condition before and after her visit to Lourdes.]

A CASE OF DISTENSION OF THE BLADDER WITH
RETROVERSION OF THE UTERUS.

BY WILLIAM GEMMELL, M.D. GLAS.

ON 15th July I saw the following case along with another medical man. The patient was Mrs. T., æt. 38 years, and she was three months pregnant. She complained of "being larger than she ought to have been," and that the swelling was increasing rapidly. On examining the abdomen, a large tumour was seen extending out of the pelvis to about three inches above the umbilicus. It had the form of a pregnant uterus. On palpation it felt firm and elastic, and on percussion dulness was obtained all over it. No foetal heart, no uterine souffle. The history of the case was that, in the first month, she had been just the same as in former pregnancies, but during the third month she had enlarged very quickly. The woman complained little of pain, but the size of the tumour was evidently causing her some distress. She stated that she was making water freely, and a quantity was shown which had been passed during the day. It had been examined and found normal. Her temperature was also normal. On vaginal examination, a certain amount of swelling and hardness was felt towards the posterior wall of the vagina. The position of the os uteri was obscure. These facts had led to the case being diagnosed as one of pelvic cellulitis, the uterus being pushed up, and the pregnancy being considered to be more advanced than the third month. But, as this did not explain the rapid growth of the tumour which had latterly taken place, it was supposed that a hydatidiform mole might be the cause of the distension of the uterus, it being remembered that in this affection the symptoms are little marked during the first month, while during the second, and especially during the third month, a rapid increase in size of the uterus takes place. The cervix also in those cases is often swollen and boggy, and the fornices bulging.

Although the patient was certain that she was passing sufficient water, yet, in order to aid in the diagnosis, it was proposed to pass a catheter, but, as we had not such an instrument with us, this was deferred until next day. When this was done the following morning, an enormous quantity of water was drawn off, and the diagnosis was made clear. So much distension was present that it was considered advisable to let the urine escape in two lots, and, when these

were collected, they were found to measure 56 ounces. Subsequent examination showed that the uterus was retroverted, and subsequent manipulation easily restored the organ to its proper place.

This case is recorded owing to the difficulty in diagnosis, and because of the slight amount of suffering complained of by the patient, who deemed that all along she had been passing an ordinary quantity of water.

PUBLIC HEALTH.

It is proposed in future issues of the *Journal* to introduce, at regular intervals, papers and notes on matters specially related to Hygiene and cognate subjects. The following paper will serve as an introduction to this department. The department is intended especially for the general practitioner who, in the regular course of his experience, so frequently comes into touch with the medical officers of health and the various organisations devoted to sanitary affairs. It will include Reviews, Notes from recorded work, and occasional Original Papers, the object in view being to keep the practitioner informed as to the more important matters which are occupying the attention of the specialists engaged in sanitary work. These pages will also be open in an especial manner to records of cases which have any bearing on hygiene. The department will be under the editorial supervision of Ernest L. Marsh, M.B., C.M.

ON THE PLACE OF HYGIENICS IN A MEDICAL JOURNAL.

By W. LESLIE MACKENZIE, M.A.,

Medical Officer of Health for Leith; late Medical Officer of Health for the Counties of Kirkcudbright and Wigtown.

THE problem I put before myself is this, What may a medical journal properly do for the scientific study of public health? The postulates of the case are these—(1) The enormous wealth of material demands a greater freedom of intellectual trade, or, as Professor Shield Nicholson puts it, a greater “mobility of intellectual commodities;” (2) no one journal, however extended

the scope of it, can systematically traverse the whole field, selecting from every department even what obviously fits the general nature of its ordinary contents; (3) the medical journal proper—that is, the journal devoted to the systematic case-study for practice, as against either the expert journal of hygienics or the generalised text-book—has a certain defined field that may at once supply to hygienics fresh cases, and select from current hygienics certain cases fitted for the elucidation of practical medicine. These three postulates, which any serious student of scientific medicine, curative or preventive, will grant without much argument, indicate the class of work a medical journal may with profit undertake. In the following remarks the general is more obvious than the special, but perhaps, in a situation where matter has far outrun organisation, where, indeed, detail tends ever to obscure principle, the most a short article can well achieve is not so much to delimit the frontiers as to make obvious the true point of view. That gained, the detail is “mere undress and holiday scramble.” Let it be further understood that nothing here indicated can contradict the notion of the journal of hygienics proper—a distinct and essential thing, which I cannot be accused of not supporting or doing what time offers to develop. What the journal of hygienics proper may do the medical journal would be wasting energy in attempting; on the other hand, hygienics will gain more and more from the perpetual elaboration and definition of medical cases from the hygienic standpoint. None the less, the practice of hygienics and the practice of medicine are, as the sequel shows, distinct in principle and sphere, but both have everything to gain from adapting their material in a systematic way, the one to the service of the other. How shall this be best achieved at the present pass of events?

What we most want is, as it were, a “clinical section of hygienics.” The day of the text-book ends when practice begins. Give the student his generalised outline of knowledge; he is thereby fitted to begin the survey of the wilderness before him, to transform its stubborn details into his prepared order, to give content, diversity, difference to the form, the normal, the identical he has learnt in the schools. There he has had to do not with cases, but with illustrations; here he has to do not with illustrations, but with cases. Then he was taught the generality; now he must learn to particularise, or, in philosophical language, he must now, in the individual or illustrative case, combine the particular with the universal, which is to say, he must make practice scientific. This is

true of every practice that has a scientific basis; it is true of general medicine; it is equally true of preventive medicine, more properly named hygienics. This is, indeed, the very kernel of the difference between theory and practice—to apply the identity of the general proposition in the diversity of the particular case. And this it is also that gives to cases a value for science. For not every case is of value, yet, with the eye to see, few are valueless, and what constitutes the value in clinical medicine, to name but one branch of practice, is just this, that the case properly described, properly grasped, that is, in the generality that determines its nature, becomes thereby itself a contribution to science. Yet again this is the difference between scientific medical detail and medical gossip, which to the general may be more interesting, but scientifically is worth nothing, being, indeed, positively baneful.

So far the principle. How shall we apply it in public health, or hygienics? Precisely as it has been applied so fruitfully in the other branches of medicine. In the "Practice of Medicine"—technically, if illegitimately, so named—the Clinical Section is the recognised school of detail, of diversity, of individual insight. Heart, and lungs, and stomach, and bowel, and kidney, and brain then first become a medical reality to the reader of "Medicine" when he grasps their infinite diversity in the vacant form of his class-taught notions. For him, properly, medicine does not exist till he deals in the actual; till then his practical knowledge is potential merely; it becomes a reality when the identity of his case and his idea flash upon him in the concrete. In other branches of medicine the same is true; surgery has its case-practice, pathology has its practical classes, physiology, anatomy, all have their "clinical" departments well organised and detailed. Let the same become true for preventive medicine—hygienics. Already, doubtless, there are details not in their tens or thousands, but in their millions and multitudes. There are books and ever more books; articles, researches, statistics; weeklies, monthlies, quarterlies, yearlies; every sort and character of intellectual embodiment that the spirit of the time recognises. And medical journals have their sections for hygienics; medical books are slowly transforming their expositions under the central notion that civilisation does not mean healing only, but the extirpation of disease; not cure after the fact, but fortification in advance. But this enormous body of detail is beyond the grasp of the strongest memory and the most comprehensive intellect. Let but one day pass with magazines unread, and you miss a

newly announced research ; let a week go and you must "sit up o' nights ;" let a month go and you must either begin anew, consenting to the hiatus, or own yourself antiquated. I do not say you shall lose much by that. Was it not Hobbes's remark—"If I read as much as my neighbours, I should be as stupid?" Not all that sees print pays the reading ; yet much that sees print demands a reading, and guided by our postulates, what a medical journal can do is to select from the chaotic mass what fits the purposes of Medical Practice ; to gather the illustrative cases from everywhere for the making of practice scientific ; to record, in form compact and generalised for a definite object, concrete, actual occurrences that shall ease the search for precedents. So far selection from recorded work.

But there is more than reading that a medical journal can direct, though reading gives a vast store of special work. If this needed any proof, the admirable condensations of the *British Medical Journal* and the *Medical Chronicle* are there to point it. But what those condensations in their isolated compartments are doing for the collation of articles might equally well be done also for the collation of cases hitherto unrecorded. In public health practice—the relation of water to disease, for instance—what I have most wanted was actual, detailed, described cases with elements bearing on my own work. Of general doctrine we have and to spare ; that certain waters cause diarrhoea no one doubts ; that certain others spread typhoid is no more doubtful ; and so on. But when you go into some detailed analysis of (say) Parkes (who, of individual writers, is on the whole the richest yet in the general fund of matter), you get ample detail to establish the principle ; you will not get very much to exhibit the principle after it is established. You cannot wander through the "Rivers Pollution Reports," "hunting," as Carlyle once said to a friend who supplied him with some Cromwell documents, "through 40 acres of horse-dung for three green peas." And yet water is one of the best worked departments of the whole of preventive medicine.

But when you come lower down into house structure, say, you are still more at a loss. The facts to establish the relation of damp walls to many forms of disease must be legion ; yet to find evidence for a particular disease is a difficulty. It is not always for the medical officer to establish this relationship directly—that must come through medical practice ; and my notion is that we have now got fairly to the bottom of cardiac mechanics—at least until the popular

notions of blood-pressure are revised—and that we have enough of almost every serious variety of named disorder, enough in their unrelated form and to spare. For these in their hygienic relations, however, the demand is only but begun. There is room, too, for an organising of those endlessly recurrent, minute, unnamed ailments whose accumulated total makes a difference to the death-rates, but whose individual import impresses, as a rule, neither patient nor practitioner. I am persuaded that the mine of wealth lying there before us awaits only the working to give out material of the first hygienic value. What we need is an acuter, a minuter practical analysis; a determination to let no small fact pass unclassified or unrelated; an application, as it were, of the clinical microscope in metaphor to the borderland of bodily efficiency. So shall we steadily build up a scientific structure on a concrete basis—a science of hygienics built on a case-record of health values, as the science of medicine is based on a case-record of disease values.

Let me particularise. Take dampness of houses. When does a damp wall pass under the rubric “injurious to health?” A medical officer is asked to examine a house recently built. The complaint is dampness of the walls, which are neither lathed nor plastered, and retain no paper unrotted; they are here and there covered with hairy mould. The parts affected are localised to certain exposures. The medical attendant refuses to permit his patient’s accouchement in the rooms. And—there is a suspicion that the rent is overdue, and that domestic economics is the fundamental thing. Very great dampness is of course a cause of dishealth, and dampness due to structural inadequacy is also a cause of dishealth. But a careful study of the precise effects of dampness by itself, backed by selected cases of cumulative detail, would be an enormous help in the medical officer of health’s references. Further, he wants not merely what satisfies him in the general, but what points the particular case. Multiply such cases by all that goes to make a house unhealthy, by every variety of nuisance under the Public Health Acts, by the literally unending sequences of facts to be had everywhere for the observing, and you may imagine in outline what remains yet to do for “clinical” hygienics.

And in a very special way this kind of record is important for public health, because public health is the detailed application of statute law, and the judicial content of the principles must from time to time be determined by actual cases and decisions. The statute law, when the phrase is general, must,

in interpretation, follow the drift of the common law. Hence the importance of editing "medical" cases from the health point of view, of selecting the kind of detail valuable for such guidance in practice, of the gradual accumulation of a case-record that shall supply illustrative references for all the varieties of hygienic and anti-hygienic influences to be found in the complexity of our civil communities.

If this be not enough to place the notion I am trying to adumbrate, then consider one superb example of the kind of work wanted—Dr. Arlidge's *Diseases of Occupations*. The general principles of such a work can be filled in by the case-observer in a way open to no other person. In the public health magazines such material has to be collated and built into the fabric of scientific hygienics; the medical journal proper furnishes from the rich detail of its contributors' medical practice the infinitely recurrent, and never identical, cases. So shall the medical officer of health no longer move haltingly in the darkness of the merely general—he may rely on finding when he goes out to seek; and thus, as the science of medicine pushes more and more into the scientific organisation of the border-diseases, the science of hygienics, so grasping the life-values in greater detail, grows more and ever more adequate to the ends of civilised living.

CURRENT TOPICS.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.—The first ordinary meeting of the twenty-second session of this Society will be held in the Faculty Hall, 242 St. Vincent Street, on Monday, the 8th inst., at 8 o'clock. The following are the office-bearers for session 1894-95:—

<i>President,</i>	. . . . .	DR. D. N. KNOX.
<i>Vice-President,</i>	. . . . .	DR. DONALD FRASER.
<i>Hon. Treasurer,</i>	. . . . .	DR. J. B. RUSSELL.
<i>Hon. Secretary,</i>	. . . . .	MR. A. ERNEST MAYLARD.
<i>Hon. Editorial Secretary,</i>	. . . . .	DR. JOHN H. CARSLAW.

Members of Council.

DR. R. M. BUCHANAN.	DR. THOMAS H. BRYCE.
DR. CHARLES WORKMAN.	DR. SAMSON GEMMELL.

POST-GRADUATE COURSE IN PATHOLOGY.—A course of practical instruction in the methods of pathological research is being conducted by Professor Joseph Coats and Dr. R. M. Buchanan. It has evidently met with the requirements of many young practitioners, as no less than nineteen graduates have taken advantage of it.

DEATH OF DR. WILLIAM ALEXANDER GREENHILL.—All who are interested in the history and classic literature of the medical profession will have read with regret of the death of this accomplished and scholarly physician. He died, after a brief illness, in his eighty-first year, at Hastings, where he had been engaged in practice since 1851, having graduated as M.D. at Oxford ten years previously. Dr. Greenhill's chief contributions to medical literature consist in his commentaries on and translations of the writings of the ancient Greek and Roman physicians. Perhaps one of the best known of his works is his Latin edition of Sydenham, published by the Sydenham Society in 1844. In recognition of his services to medical literature he received an annual grant from the Civil List. He took much interest in hospital and charitable work in Hastings, and was beloved by all classes of the community.

ADDITIONAL TABLOIDS.—Our attention has been called by Messrs. Burroughs, Wellcome & Co. to the fact that they have recently added the following to their list of drugs furnished in the form of tabloids, namely:—

Bismuth Salicylate "Tabloids."—Each "tabloid" contains 5 grs. of the bismuth salicylate, guaranteed to be physiologically pure; dose (adult) ranging from 1 to 4 "tabloids" (5 to 20 grs). The drug itself being insoluble in ordinary menstrua, such as water or alcohol, these "tabloids" are so compressed that upon ingestion they very quickly disintegrate.

Easton's Syrup "Tabloids" ("Tabloid" Trium Phosphatum).—These "tabloids" may be confidently prescribed as much preferable to the syrup, as they are more convenient and more portable, while they are equally effective. The objections to the syrup—viz., its bitterness, &c.—are avoided in the Easton's syrup "tabloid." Each "tabloid" represents exactly the respective proportions of iron, quinine, and strychnine contained in a fluid drachm of the official syrup.

"Tabloids" of Pepsin, Bismuth, and Charcoal.—Each "tabloid" represents 1 gr. pepsin, 2 grs. bismuth subcarbonate, and 2 grs. purified willow charcoal. The pepsin used in this combination has a digestive power of 1 : 3,000 as indicated by the official coagulated-albumen test.

REVIEWS.

A Text-Book of Ophthalmology. By W. F. NORRIS and A. A. OLIVER. Edinburgh: Young J. Pentland. 1894.

THIS is a book which, coming amongst the publications of Mr. Young Pentland, we would willingly recommend, for, as a rule, the books published by him, especially in the department of ophthalmology, are of the highest class. Looking, however, at the first part of this volume as leniently as we may, a strict regard for fact obliges us to say that it is the most inaccurate production we ever remember to have read. It is written in the most slovenly and careless manner, and ought never to have been published in its present form. The second part, on the other hand, is good, and, indeed, appears to us to be of more than average merit. It is evidently written by a gentleman who has at one and the same time a competent knowledge of the English language and of ophthalmology.

The part to which the strongest objection is to be taken is from p. 80 to p. 234. At the latter page we felt the perusal of the first part to be such a waste of time that we passed on to p. 280, where the second part begins.

One of the most serious blunders which the author makes is in ascribing colour sensations to differences in the *amplitude* of the wave. Surely almost everyone knows that a difference in colour means nothing less or more than a difference in the *frequency*. We cannot understand what he means by saying that when light enters a denser medium the wave is larger and coarser; does he indicate a change in wave-length, or in amplitude, or in both? Dr. Oliver, both at p. 116 and at p. 151, entirely fails to distinguish between amplitude and wave-length—two very different matters. The obvious fact is that if so-called white light passes into a denser medium, if there is no change in colour, the frequency being the same, then the wave-length must be shorter as the velocity is slower. On the amplitude depends the intensity.

The calm way also in which he speaks of measuring the *length* of a sine is startling. A sine is not a length—it is a ratio. It may, no doubt, be the ratio of a line to radius unity, but when that is the case the convention should be clearly stated.

Nor does he give the slightest explanation of the phenomena of refraction, and of the important part played by the wave-

front. Far better simply to have stated the facts than to have written the explanation which is given of refraction when light passes from a dense into a less dense medium. Writing, be it remarked, of a single ray, he says—"The ray of light is now thrust, as it were, into a less resisting body, it moves forward with greater velocity and at an increased angle." But why? asks the student. Energy, when it is transmitted with a greater velocity, does not necessarily change its direction.

Speaking of the well-known figure of the two prisms touching at their apices, we are told that "they weaken the force of the light stimulus." The fact is that they weaken the force of the light stimulus sensibly only per unit area.

At p. 123 we find it stated that if Fig. 91 be made to rotate round its axis, a spherical lense will be produced, or rather, an infinite number of prisms. Now, on looking at Fig. 91, it is obvious that three concentric circular prisms would be produced by rotation. Three is certainly not an infinite number. What the author really wishes to indicate is that a circle is a regular polygon, the number of whose sides is in the limit infinite.

After describing the properties of cylindrical lenses, the student is plunged into a discussion of spherical lenses without a word of warning. Many a careful student will read on for a good way before he discovers that the theme has been changed. He will not, however, have proceeded far before he finds the important phrase, *optical centre*. Not the slightest idea is here given of what is meant thereby; that is not explained till a later page.

As an example of gross carelessness we may cite the following:—"Rays which do not pass through the centre of curvature of the refracting surfaces are known as the *secondary axes*." A proper definition would have stated the fact that a secondary axis must pass through the optical centre.

Again, we are told that if a $+6\text{ D}$ and $+1\text{ D}$ are added together, the result is a $+7\text{ D}$. No account whatsoever is taken of the distance between the optical centres.

The section on prisms is fairly good, but surely some reference ought to have been made to the beautiful demonstrations of Percival. Incredible as it may appear, the whole of the section on lenses is given without a single geometric demonstration, and without a single formula, even of the most elementary description.

Turning now to the chapter on physiological optics, we

find that matters are not improved. At p. 145 and onwards we get into trouble about the cardinal points. A sufficient demonstration of their situation is thought to be a glance at Fig. 119. The student generally has the bi-convex lens in his mind when he hears of lenses; what, then, will he make of the following?—"Just as one lens has its nodal points, *which are practically the centres of curvature of the lenticular surfaces.*" Are they so in the lens with which the student is most familiar—viz., the bi-convex lens?

Discussing the visual angle, the author wishes to show that the nearer an object is brought the larger is the retinal image; but when the object is brought nearer in the diagram he draws it almost four times the size that it was at the greater distances.

Then, again, spherical aberration, chromatic aberration, and the physiology of astigmatism are all discussed within the limits of a page, in which room is also found for some observations on the Kodak camera.

The term *region of accommodation* is defined as the linear distance over which the accommodation has play. That is all very well, but on the very next page, without any explanation or definition, the phrase range of accommodation is used.

Here is another example of almost incredible carelessness. Calling A the range of accommodation, we are told—"In emmetropia, if, as we know, the far-point (R) be at infinity, it can be represented by the appropriate symbol (∞), whilst if the near-point (P) can be assumed to be at 10 centimetres, P can be represented by $10 D$; that is, $A = 10 D - \infty$, or $A = 10 D$." Now, it is obvious that any finite quantity minus an infinite quantity is not equal to that quantity, but is equal to minus infinity.

At p. 160 we find the centre of rotation called the "nodal or turning-point." Many students will, therefore, conclude that the nodal point of the reduced eye is at the centre of rotation.

Indeed, to mention all the errors that occur in the chapter on the examination of the eye would occupy more space than the most indulgent editor could afford. The author refers to heterophoria and positive and negative scotomata without the slightest description or definition.

In speaking of diplopia, no mention is made of the homonymous variety; and the description given of the method of testing heteronymous is so bad that very few, even expert ophthalmic surgeons, will be able to follow it. Here it is—"Should there be doubt as to which is the false image, a red glass should be

placed before the right eye, and, as its light will be made reddish, the differentiation becomes easier. The patient is next to be asked whether the false light is to the right or to the left of the true one. If he says that it is to the right, then he has what is known as *heteronymous diplopia*; that is, the muscle balance of the two eyes is so unequal that when binocular vision is broken, and simultaneous, yet separate vision with the two eyes is secured by means of the prism, the images of the two eyes are on separate sides, demonstrating that he has either a weakness of the internal rectus of the left eye, or a spasm of the external rectus of the right eye." How many of the students or general practitioners to whom the book is addressed will be able to make anything out of that?

Even the section on the perimeter is bad. What is meant by ruling a board in "concentric circles of five degrees?" Surely it must be to a given radius. Judging from the diagram given of the concentric circles, we cannot but conclude that the author believes the rate of increase of the tangent to be a constant. When using the ordinary arc perimeter, we are told that the patient's eye should coincide with the centre of fixation. As a matter of fact, the centre of rotation of the patient's eye should coincide with the centre of the arc. We never heard of the centre of fixation before, although the point of fixation has a well defined meaning.

Time would fail to point out all the mistakes—two more must suffice. On p. 204 we have actually rays of light coming from a denser into a less dense medium, bent towards the perpendicular. Again, on p. 227, the focus F^1 is only very slightly removed from F , whereas every schoolboy knows that if the mirror has been rotated properly, the angular displacement of the image will be twice that of the mirror.

Most of the diagrams in the first part are copied, of course with due acknowledgment; some of them, however, are original, and certainly look it. When we first opened the book and saw some of the diagrams, we thought we had at last hit on a good thing, for they seemed to illustrate the very important principles of oblique pencils. We find, however, that they are examples of direct rays. Fig. 65 is also entirely wrong; no eye could focus such converging rays.

As examples of bad and obscure writing we would like to give pp. 206, 207 *in extenso*; that would, however, take too much room. All we can say is that we hope London and Edinburgh publishers will in time insist on the books which they publish being written in fairly good English.

The second part of the book is much better; it is so good that a practitioner may read it with great benefit, and it is carefully written. It is interesting to observe that Professor Norris sometimes uses eserine before iridectomy for glaucoma. For some considerable time we have always used it for the purpose of finding out at what part the periphery of the iris is most free to respond. There and there only should the iridectomy be made. Otherwise it is almost certain to fail, and the eye may be lost or have even ultimately to be enucleated from a careless neglect of this precaution.

The Physiology of the Carbohydrates: their Application as Food and Relation to Diabetes. By F. W. PAVY, M.D., LL.D., F.R.S. London: J. & A. Churchill. 1894.

THIS book, the result of "a life's labour attended with unceasing laboratory work," as Dr. Pavy states, is one which, if its conclusions be correct, will revolutionise a large department of physiology. From the very numerous and careful experiments detailed in the work, Dr. Pavy has come to the conclusion that the theory of the glycogenic function of the liver is no longer tenable. We do not propose to do more than to give a summary of the results of these experiments and of the conclusions which Dr. Pavy has derived from them.

He begins, then, with an account of the chemistry of the carbohydrates, which he regards as probably a cleavage product of protoplasmic activity. He describes the characters of the amyloses, the saccharoses, and the glucoses, and, after noting the behaviour of the sugars with phenylhydrazine, a reaction of which he has made much use in his experiments, he passes to consider the transmutation of carbohydrates. Those of lower hydration may be moved into a state of higher hydration by the action of acids and ferments, while transmutation by diminished hydration is practically only effected by the agency of living matter, as in the transmutation of saccharose into glucose. Proteids, as a result of the action of ferments, undergo similar changes. "The province of ferment action is to prepare for the exercise of protoplasmic action." Dr. Pavy next proceeds to demonstrate the glucoside constitution of proteid matter, on which he read a communication, transcribed in this volume, to the Royal Society, in June, 1893. By boiling with potash, pouring into alcohol, and collecting the precipitate, he obtained from various kinds of

proteids a non-cupric-oxide-reducing body which he at first took to be glycogen. But he afterwards found that varying the strength of the alkali and the length of time of contact altered the quantity obtainable, so that the source of the body must be in the cleavage of the proteid molecule itself. This body resembles animal gum, is diffusible, and yields glucosazone crystals with phenylhydrazine after treatment with 2 per cent sulphuric acid. It then reduces cupric oxide, and its power of doing so is increased by treatment with 10 per cent sulphuric acid, after which it possesses the characters of a non-fermentable sugar. Dr. Pavy afterwards found that the cleavage of the proteid molecule and liberation of sugar could be brought about by direct treatment with sulphuric acid, the sugar formed approaching more nearly to glucose the more prolonged is the action. The same effect is produced by the action of proteolytic ferments, so that during digestion carbohydrate is liberated from the proteids of the food. Having thus shown that proteids possess a glucoside constitution, Dr. Pavy points out that proteids may be built up from carbohydrates combined with inorganic matter, as in the case of the growth of yeast-cells in a medium composed of water, sugar, ammonium nitrate, acid potassium phosphate, tribasic calcium phosphate, and magnesium sulphate. In this case the whole of the carbon required must be derived from the sugar. He then considers the splitting off of carbohydrate from proteids in the process of formation of starch, cellulose, &c., and points out the increased functional importance of proteids viewed in this light. A chapter follows describing his methods of analysis, in which he insists on the necessity for determining the cupric oxide reducing power of the extracted carbohydrate both before and after treatment with sulphuric acid, whenever the nature of the sugar present is not previously known. He has chiefly made use of the ammoniated cupric test, a modification of Fehling's solution, by which greater accuracy is obtainable. He next traces the various carbohydrates from their ingestion to their appearance in the portal blood. The salivary and pancreatic secretions convert starch into maltose, while that of the glands of Lieberkühn has the power of carrying it on to glucose. But the sugar found in the portal blood after a starchy meal has a lower reducing power than that of glucose, although higher than that of maltose. Cane sugar undergoes no change in the mouth, but in the stomach, contrary to the general opinion, it is to some extent inverted, and much more completely in the intestine. In the portal blood it appears

as glucose. Lactose does not undergo any decided change. Passing to the examination of the portal blood, Dr. Pavy finds that after fasting it contains the same amount of sugar as the general circulation (0.6 to 1.0 per 1000). This also holds with regard to the portal blood after animal food; after starchy food there is a marked increase of sugar. What, then, becomes of the sugar after reaching the liver? Dr. Pavy's analyses of the blood flowing from the liver, made with every precaution to procure it in the natural condition, show that, even after the ingestion of carbohydrates, it contains no more than 0.6 to 1.0 per 1000 of sugar. The surplus sugar, he concludes, is abstracted from it during its passage through the liver. The results of other experimenters have been vitiated by the want of precaution to obtain the blood in its natural condition. From analyses of the liver itself, he finds that after a diet of carbohydrates the amount of glycogen is very largely increased. The sugar, then, of the portal blood is transmuted by the hepatic cells into the non-diffusible glycogen. The small amount of glycogen found after a meat diet is derived from the small amount of free sugar present in all animal food, and from the cleavage carbohydrate formed from it by proteolytic ferments. The amount of glycogen found in the liver varies greatly. As a rule, from 5 to 40 parts per 1000 are found. It is increased by carbohydrate food, and it is greater in young than in old animals. It varies also in different animals. A certain amount of sugar is also present. During life, or if precautions be taken to arrest ferment action immediately after death, it varies from 1 to 3 per 1000; without these precautions much greater amounts are found. During life, therefore, the liver stands in the same position with regard to sugar as the other organs. Glycogen is present, and a sugar-forming ferment, which, however, must be in some way inhibited in its action, for it is calculated that otherwise all the glycogen would disappear in about three-quarters of an hour, if the change took place at the same rate as after death. But glycogen is found even after a forty-eight hours' fast. And sugar production may take place even after coagulation of the hepatic cells by alcohol. It is thus demonstrated that it does not depend upon the metabolic activity of these cells, while the amount of increase in sugar practically corresponds to the amount of glycogen lost.

Passing to the condition of the blood in general, Dr. Pavy finds that it contains sugar in the form of glucose, thus contrasting with the portal blood; and his analyses, made

with every precaution, lead to the conclusion that the amount varies from 0.6 to 1.0 per 1000. He finds also that the arterial and venous blood do not differ in the amount of sugar they contain, and consequently that there is no disappearance of carbohydrate matter in transit through the circulation. Carbohydrates do disappear from blood after standing, but this is to be expected in view of their instability. A small quantity of sugar, recognisable by a complicated process, and amounting to about 0.5 per 1000, is also present in healthy urine. It is present in proportion to the amount existing in the blood, in contradiction to Claude Bernard's statement that the system is capable of tolerating a certain amount of sugar. Observations are also given as to the amount and nature of the sugar present in the various organs (which are found to be not less saccharine than the liver), and as to the amount of amylose-carbohydrate (*i.e.*, proteid-cleavage carbohydrate and glycogen taken together) to be found in the blood and the organs generally.

These are Dr. Pavy's statements, based upon experiments detailed in the book. The conclusions he draws from them are as follows:—The glycogenic doctrine must be abandoned. In physiological conditions the liver is in the same condition, with regard to sugar, as the other organs, and the blood flowing from it does not contain an excess of sugar. There is "no evidence of the transport, as a functional operation, of sugar from the liver to the systemic capillaries." The liver checks the progress of carbohydrate matter and prevents the fluctuating condition of the portal blood from being transmitted onwards. By its means the general circulation escapes being influenced by the ingestion of carbohydrates. The glycogen formed in it is not reconverted into sugar and passed on, for the following reasons:—In the rabbit, as digestion is a constant process, there is always more sugar in the portal than in other blood. Hence the stoppage action of the liver is continuous, "which is not reconcilable with stoppage for temporary storage." The urine, in health, contains a small quantity of sugar proportionate to that of the blood. This quantity is the same in animal and in vegetable feeders. This, also, is not reconcilable with temporary storage, for the excess of carbohydrate in the case of vegetable feeders would, sooner or later, appear in the blood, and hence in the urine.

The liver, then, does not form sugar, nor does it store it up to be afterwards passed on as such. It arrests it, and when it fails to do so, glycosuria or diabetes appears. There is no hard and fast line. The failure of arrest may exist to a

degree just below the standard of health, or it may be a grave condition, in which sugar is derived even from the tissues, apart from diet. This is comprehensible in the light of the glucoside constitution of proteid matter.

As the carbohydrates are not used in the manner enunciated by the glycogenic theory, they must be disposed of in some other way. Protoplasmic action may transform carbohydrates by transmutation, by applying them to proteid production, and by transformation into fat. Transmutation leads to the formation of glycogen, which is then disposed of in one or both of the remaining ways. The power of such transmutation does not rest entirely in the liver, but is probably a general property of the protoplasm. The observations of Pasteur upon yeast prove that carbohydrate may be applied to the formation of proteid, and this has also been shown for the higher plants. Dr. Pavy considers that in the intestine the cells of the villi may be regarded as comparable with the yeast cells in Pasteur's observations, and this is supported by the disappearance of peptone, which occurs just where it should do if it be used in the production of proteid by the cells of the villi. Finally, the production of fat from carbohydrate is well ascertained in the case of the higher plants, and also in the animal kingdom. Here, also, the cells of the villi are the active agents in the transformation. After a meal of carbohydrates they are found to be full of fat globules. The liver probably transforms into fat the carbohydrate which escapes the action of the villi, and thus corresponds to what is seen in the production of *foie gras* by the fattening of geese, in which the villi are much less developed than in mammals. The transformation is probably not direct, but the carbohydrate is incorporated into proteid, from which the fat is thrown off by cleavage.

Normally, then, the cells of the villi and of the liver appropriate carbohydrate by protoplasmic action. Deficient protoplasmic action allows it to pass these lines of stoppage, and this can be brought about by alterations in the state of the blood, such as undue oxygenation.

Criticism of so important a work as this would obviously be out of place until the matter has been made the subject of control experiments. If the facts be correct, and no fallacies have disturbed the investigation, the deductions would seem to be inevitable. We have preferred merely to summarize the contents of the work, in order to induce those who are interested in the subject to turn to its pages for further information. It is a book to be read by every physiologist.

Clinical Lectures on Subjects Connected with Medicine and Surgery. By various German Authors. Third Series. London: The New Sydenham Society. 1894.

THE lectures contained in this volume, eleven in number, are chiefly medical. The first contribution is one by Billroth on the mutual action of vegetable and animal cells. He discusses here the effects of the action of microbes upon animal tissues, resulting either in destruction or in new-formation. The nature of the formative stimulus, and the effects of formative irritation, receive special attention, and in the development of the subject he embodies his views upon heredity. He then passes to the action of animal upon vegetable cells, in which connection his remarks upon the formation of galls are of much interest. The lecture has suffered somewhat through being translated by a German. The sentences are often lengthy and involved, and the English is sometimes definitely bad. There are three lectures by von Ziemssen, on neurasthenia and its treatment, on the causes of tuberculosis, and on syphilis of the nervous system, of which the first and the last are perhaps the most important. He lays special stress upon the necessity for isolation in severe cases of neurasthenia. The lecture upon syphilis is illustrated by a very interesting series of cases, in one of which the retinal arteries, at first thickened, and with the double contour obliterated, were observed from day to day in their progress to recovery under mercury and iodide. He considers that "the condition of the retinal artery should receive special attention throughout the whole course of the disease." Two lectures by Alexander Peyer on "*Asthma Sexualis*" and "*Severe Enuresis Nocturna in Males*," are allied to each other, inasmuch as he finds posterior urethritis and masturbation to be the chief causes of both. The diseases yield, as a rule, to local treatment. It is of importance, in his view, to inquire into the condition of the generative organs in all cases of asthma where no other cause is apparent. This applies to females as well as males. Salzer's lecture on the healing in of foreign bodies is interesting. He gives an historical *résumé* of the subject, and adds cases of his own. He finds that they become surrounded by a very resistant cicatrix, the internal layers of which are more vascular than the outer, or that they become encysted, and from the results of his experiments he suggests the insertion of glass-wool, in cases of the radical cure of hernia, to produce a tough cicatrix. In one case this was so far successful, but the patient was lost

sight of. Erb lectures on progressive muscular dystrophy, a term under which he proposes to group the diseases hitherto known as pseudo-hypertrophic paralysis, infantile and juvenile muscular atrophy, finding them all associated with similar changes in the muscles and an intact condition of the cord. Löwenfeld discusses the advance in the treatment of chronic disease of the cord, in which he lays great stress upon the careful employment of hydrotherapy. Strümpell, also, lectures upon traumatic neuroses, railway spine, &c., dividing them into general and local, the latter being of an hysterical nature, the former calling for a very guarded prognosis, and being not infrequently associated with organic traumatic lesions. Finally, Hofmeister has an excellent lecture on diabetes mellitus.

The book is thus one of varied contents, in which every one will find something of interest. If one were to single out any part of it for special praise, it would be the lectures dealing with the diseases of the nervous system.

Materia Medica, Pharmacology, and Therapeutics—Inorganic Substances. By CHAS. D. F. PHILLIPS, M.D. Second Edition. London: J. & A. Churchill. 1894.

WE can confidently recommend this book to the practitioner who wishes to refresh his memory concerning the physiological action of remedies, as well as to get some guidance in their practical administration. The sections dealing with treatment are well up to date, and the author states the result of his own experience, and also discusses the methods of other authorities. The volume is a most readable one. It displays throughout great clearness of statement in the discussion of pharmacological theories, and is singularly accurate and complete in detail.

Cancer and its Complications. By CHARLES EGERTON JENNINGS, M.D., M.S., F.R.C.S. Eng. Second Edition. London: Baillière, Tindall & Cox. 1893.

THE first edition of this work was reviewed in the *Glasgow Medical Journal* of March, 1890, and as there has been no material alteration in the second edition, beyond that of a wise reduction in price, we feel it somewhat superfluous to re-review the volume. The author seeks to elucidate the undernoted points, and attains his object, so far, with much

unnecessary writing, devoted to the proof of what is now generally accepted as established fact. The parasitic theory of the causation of cancer is not discussed. The following are the points in question:—

1. "Cancer is a local disease.
2. "There are several varieties of cancer, distinguishable from one another by their microscopic character; but the degree of malignancy of a cancerous growth depends not merely upon its structure, but upon its anatomical site.
3. "Cancer frequently occurs in combination with some other disease, and is often preceded and caused by disease or injury of the tissue from which it springs.
4. "The occurrence of cancer may often be prevented; and complete extirpation of the disease, in its earliest stage, may be considered curative.
5. "Further investigation of the action of certain specific drugs, among other things, is still needed. Evidence, which has been advanced in favour of the curative action of some mineral and vegetable substances, cannot be disregarded."

Stricture of the Urethra. By G. F. LYDSTON, M.D., Professor of the Surgical Diseases of the Genito-Urinary Organs in the Chicago College of Physicians and Surgeons; Surgeon to Cook County Hospital. Chicago: The W. T. Keener Co. 1893.

WHILE the necessity for the production of a work of over three hundred pages on the single affection, *stricture*, may be matter of opinion, and while we deprecate on every ground the attempt to create a class of specialists in "genito-urinary surgery," so-called, we recognise in Dr. Lydston's present work a valuable contribution to surgical literature.

It is clearly written, and, while the author has no very novel views to present, he has given a comprehensive and accurate account of the symptoms, pathology, and modern treatment of stricture and its complications, and has stated and discussed the views of the many authors he quotes with a judicial fairness, which bears evidence to thorough familiarity with his subject.

The text, which is in excellent type, is illustrated with over ninety plates, many of which are exceedingly good.

Certain sections of the work are specially worthy of note. That on "urinary," or "urethral" fever is particularly full, and in it the author insists on the modern views which hold

that the term "urinary," "urethral," or "catheter" fever is a generic term, embracing several distinct forms of febrile disturbance, the most common of which he believes to be that due to injuries of the urethra inflicted during the passage of instruments, especially metal instruments.

In the section on the treatment of stricture by dilatation, the author, as might be expected, has much to say on the questions of asepsis, gentleness in manipulation, and the folly of attempting the treatment of tight strictures by means of metallic instruments. On this matter a paragraph of the work seems worth reproduction. On p. 36 the author writes: "I am very much puzzled to understand why it is that instrument makers will persist in getting up sets of sounds for professional tyros, scaling down to the size of a knitting needle. To my mind, the man who displays such a set of instruments makes out an excellent *prima facie* case of daily and frequent malpractice against himself. As to the manufacturer who may design the abominable 'sets' for the unwary recent graduate, he ought to be prosecuted for aiding and abetting homicide. . . . Small instruments of metal should never be introduced into the urethra. . . . In dilating stricture, soft instruments should be used up to a calibre of eighteen to twenty French, after which the steel sounds should be substituted."

Post-nasal Growths. By CHARLES A. PARKER. London: H. K. Lewis. 1894.

WE have, in this small volume, a very readable account of a disease which merits our careful attention, owing to its great prevalence in this country and the various morbid conditions it may cause.

Though much has been written on the subject since 1868, when Meyer first brought the existence of post-nasal growths prominently before the profession, many points bearing on the origin of the growths themselves, and on the mode in which they give rise to certain complications, are still involved in obscurity. This little work is a contribution to the solution of these problems.

As a result of personal observations, the author has come to the conclusion, that, in the vast majority of persons with post-nasal growths, the air enters the lungs almost entirely through the nose during sleep, however great may be the difficulties, and though the mouth be kept wide open. With this as a basis, he takes up the complications of post-nasal growths

seriatim, and explains how each may arise. Thus, he attributes nocturnal distress to an overpowering instinct, which strongly asserts itself during sleep when the will power is suspended, and makes the patient endeavour to breathe through the nose although it be obstructed. He maintains that it would indeed be far better were the child to adopt buccal respiration, and thus obtain a sufficient supply of air. To the consequent deficient aëration of the blood he ascribes the malnutrition, the physical and mental sluggishness, and even occasional attacks of epilepsy, asthma, and chorea. The deformities of the chest are attributed to a constant impediment to free inspiration, which is assigned to the co-existence of two pathological conditions—viz., adenoid vegetations which obstruct the nasal respiration instinctively adopted during sleep, and enlarged tonsils which interfere with the mouth breathing assumed by the patient while awake.

The above theories appeal to us as very plausible, and, supposing the observations on which they are based to be correct, mark an advance in our knowledge of the respiratory function of the nose. We cannot, however, regard with satisfaction the explanations assigned for the origin of intra-nasal hypertrophies and deafness. The author's opinions as to the former are based upon MacDonald's theory of nasal stenosis leading to hypertrophy behind it, a theory which has not received support from the clinical facts coming under our notice. In seeking to account for the ear complications the author pushes his views too far, and by misinterpreting the negative Valsalva experiment (p. 67)—“for, if a person with normal nasal passages hold his nose and swallow, an *excess* of air is forced into the tympanum”—he loses sight of a factor more potent in the causation of the deafness than that adduced by him—viz., the persistence of respiration through partially obstructed nasal passages.

The chapter on treatment is thoroughly practical, and the facts he brings forward as to the safety of chloroform in the operation for the removal of the growths ought to be reassuring in view of the recent alarmist statements.

The Pharmacopœia of the Hospital for Diseases of the Throat.
Edited by F. G. HARVEY, F.R.C.S., Ed. Fifth Edition.
London: J. & A. Churchill. 1894.

AN interval of thirteen years having elapsed since the publication of the fourth edition of this work, a thorough

revisal was necessary. This has been carefully carried out by the editor, and the book is now quite up to date. The general arrangement and classification—originally introduced by Morell Mackenzie—has in a large measure been preserved, but many new formulæ have been added, while some of the old ones have been rejected. The editor has done well to omit the *materia medica* and the formulæ contained in the *British Pharmacopœia*. Amongst the drugs and preparations which appear for the first time are:—Chromic acid, creolin, hazeline, listerine, sanitas, eucalyptus, menthol, cocaine, peroxide of hydrogen, pilocarpine, iodol, codeine, &c. In glancing over the formulæ with which we are acquainted, we find the lotio, and collunarium “creolin” much too strong. We would also suggest that a note be added regarding the preparation of the nebula alkalina, which, when freshly made, is acid, and liable to burst a corked bottle.

A Treatise on Diseases of the Skin, with Special Reference to their Diagnosis and Treatment, including an Analysis of 12,000 Consecutive Cases. By T. M'CALL ANDERSON, M.D., Professor of Clinical Medicine in the University of Glasgow. Second Edition, Revised and Enlarged. London: Charles Griffin & Co. 1894.

WE took occasion, when reviewing the first edition of this work in May, 1887, to enter pretty fully into its merits. These have been quickly appreciated by the profession, for not only has a large edition, both at home and in America, been exhausted, but we know that the work has really been greatly read and frequently consulted.

We should like just to quote a paragraph from the preface to the first edition. “If in any place I have misinterpreted the views, or not sufficiently acknowledged the labours of others, I hope they will understand that it has been quite unintentional on my part; and, should another edition be called for, I shall be only too glad to correct such mistakes if they will have the kindness to communicate with me.” Now, we do not refer for a moment to the first part of the paragraph, but to the willingness of the author to consider any suggestions offered, so that we may not appear over vain when we say that he has virtually accepted all those that we ourselves made in our previous review. For example, the treatment of eczema has been carefully revised, and many of the new and really valuable remedies for that often obstinate affection have been duly commented upon.

The new edition, indeed, bears throughout the mark of careful revision. Here and there a paragraph, or it might be a single word, has been added to perfect the sentence, or bring the subject-matter into line with current opinion. And occasionally the pruning-knife has been used in the way at which we hinted.

The work has already proved itself to be popular with the profession, and we can only repeat that this has been well deserved.

Medicated Baths in the Treatment of Skin Diseases. By
LESLIE PHILLIPS, M.D. London: H. K. Lewis.

THIS is a thoroughly practical handbook. The author advocates the more frequent use of medicated baths in the treatment of skin affections. To promote this result he here supplies, in a convenient and handy form, details for the preparation and application of various baths, and also indicates the diseases in which each bath is likely to prove beneficial. The book is written in a most judicious and temperate spirit. It is manifestly the work of an experienced practical physician, and will certainly prove of service to the practitioner when dealing with affections of the skin.

Inebriety or Narcomania. By DR. NORMAN KERR. Third Edition. London: H. K. Lewis. 1894.

THE third edition of this work appears very considerably increased in size and with much added matter. It certainly ranks as one of the most important works on the subject with which it deals.

The book runs to 800 pages, and the subjects of many of its chapters are extremely fully considered. It may be divided into three sections, dealing respectively with the forms of inebriety, their treatment, and their medico-legal and social relationships. The varieties of narcomania are given in great detail. It is questionable how far the sulphonal habit has a right to a place among them. A word might have been said on paraldehyde intoxication, several cases of which have been reported.

We think also that Dr. Kerr does not sufficiently differentiate the various alcoholic inebrieties. It is recognised, for example, that brandy produces a more rapid moral deterioration than any other alcohol. There is only—and with this Dr. Kerr agrees—one substance which equals it in this respect,

and that is cocaine. Dr. Kerr gives Glasgow an unenviable, but not undeserved notoriety for its consumption of methylated spirits.

Many will probably disagree with the remarks of the author on the medical prescription of alcohol. He allows that in some cases its administration has been the means of recovery, but personally he never prescribes it till all other non-alcoholic and non-intoxicating remedies have been tried. His statement that there is less than a teaspoonful of nourishing material in every ten pints of "nourishing" stout wants confirmation.

The chapters dealing with the medico-legal relations of inebriety, with the relations of inebriety to life insurance, and with the criminal responsibility of inebriates, are the best in the book.

Of special interest are the chapters containing summaries of criminal trials in which inebriety, and temporary insanity therefrom, have been held to absolve from responsibility. This part of the book should do much to advance a medical and judicial recognition of certain inebriate conditions as involving irresponsibility.

Cut down to half its size and written in a less diffuse style, the book would be of much more value to the busy physician and jurist. As a standard work on the subject, it might with advantage contain more references to the work and opinions of others, and we think that Dr. Kerr might discuss some of the purely medical aspects of his subject in a more open spirit.

Burdett's Hospital and Charities Annual, 1894, being the Year-Book of Philanthropy. London: The Scientific Press, Ltd.

THIS forms a somewhat bulky volume, due mainly to the very full classified Directory, which occupies two-thirds of the whole book. The first portion of the work is devoted, as in former years, to a consideration of hospital and charitable institutions' income and expenditure.

In Chapter I we have a summary of the chief events of 1893. There is a good deal of matter here which might quite well be left out without lessening its value. For instance, the incident of the grateful railway porter can hardly be counted as one of the "Chief Events of 1893" (p. 74). The sentence also occurs, "in the absence of an emergency ward, mistakes necessarily occur" in discriminating drunk from dying on the part of the young house surgeon. We fail to

see how the presence of such a ward will help any man who would run the risk of sending away a "doubtful" case. Chapter II, in which a summary of meetings and proposals *in re* a Central Hospital Board for London occurs, closes with expressing the opinion that a Central Board should unite all genuinely interested in the welfare of our voluntary hospitals, or else none should exist. The difficulty would seem to consist in finding out and uniting such individuals.

Perhaps the most interesting chapters in the book are those devoted to the questions of cost of hospital management, sources of income, and detailed expenditure. In these we have tables giving details from one hundred and fifty-nine hospitals in the United Kingdom, the perusal of which, while somewhat appalling to the non-business-like professional man, will be full of interest to superintendents and others who have to do with these institutions. "This is the first time," we are told, "that the whole of the accounts of the principal hospitals of the country have been analysed so as to show the differences existing in amounts expended under each of the main heads," and we can heartily congratulate the editor on the resulting tables. We find on p. 208 the statement that "these tables are exercising a marked influence for good all over the country," and we can quite believe that they will give rise to considerable emulation.

While we feel, however, that, with the space at our disposal, any lengthened quotation from them would be impossible, we cannot but note with satisfaction the favourable way in which the Scottish Hospitals compare with their fellows south of the Tweed.

We do not quite understand how "the true solution of the grave difficulties at present surrounding the distribution of free medical relief in this country will never disappear unless or until the hospital authorities determine that every medical officer . . . attached to a hospital or medical institution, shall be paid for his services" (p. 285).

The concluding chapters deal with the subjects of nursing, pensions for nurses, &c., and dispensing, and give a fairly good *résumé* of the various kinds of nursing, with instructions as to whom to apply for information.

There is a slight tendency throughout to draw attention to publications from the office from which this volume is issued, but otherwise the taste shown is excellent, and we can confidently recommend the volume as fulfilling the promise on the title-page.

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British Hospital and Charities Annual, 1894.
Year-Book of Philanthropy. London: The Science
 Ltd.

This forms a somewhat bulky volume, due mainly
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 a list of the names of the hospitals and charities,
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MEETINGS OF SOCIETIES.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

SESSION 1893-94.

MEETING XII.—11TH MAY, 1894.

The President, DR. HECTOR C. CAMERON, in the Chair.

I.—PATIENT WITH BILATERAL FACIAL PARALYSIS.

BY DR JOHN H. CARSLAW.

Dr. Carslaw showed this patient, and indicated the leading features of the case. The detailed report of it is withheld in the meantime, as the patient has since had an attack of pneumonia, which terminated fatally, and it is hoped that the results of the *post-mortem* examination may be submitted to a meeting of the Society in the ensuing session. In May Dr. Carslaw thought that it was still rather soon to speak confidently about the exact seat of the lesion. The electrical reactions would indicate it as either nuclear or infra-nuclear, while the manner of onset and the degree of improvement already manifested pointed to its being most probably in the trunks of the facial nerves.

Dr. Hector Cameron said that he had only once before seen a case of bilateral facial paralysis, the patient being under the care of Dr. M'Laren in the Royal Infirmary. On looking at the present patient, he was at once reminded of that former case by the general appearance of the face, and in particular by the drooping of the lower lip. The overflow of the tears and of the saliva formed there also very distressing symptoms. If he remembered aright, Dr. M'Laren's patient also had been syphilitic.

Dr. Joseph Coats spoke of the absence of involvement of other nerves as an indication that the lesion was likely to be in the trunks of the facials rather than in the nuclei.

Mr. Clark drew attention to the fact that the auditory nerves were affected.

Dr. Carslaw said that, according to authorities whom he had consulted, the nerve-deafness might be explained simply

by the secondary syphilis. In reply to *Dr. Monro*, he indicated the relationship of the onset to the exposure to cold, as will be described in the detailed report.

II.—TWO CASES OF RUPTURE OF THE URINARY BLADDER.

BY DR. JOSEPH COATS.

After reading the reports¹ of the cases, one of which occurred at Gartnavel and the other in the Western Infirmary, Dr. Coats said that in both cases the rupture was an unexpected discovery at the *post-mortem* examination. With these great rents in the bladders there was no sign of ordinary inflammation of the peritoneum. This had surprised him at the time, and on consulting Rivington's book on the subject he found a very strong expression of the opinion that rupture of the bladder with passage of urine into the abdominal cavity and without peritonitis was impossible. On thinking over the matter since, however, Dr. Coats had come to think that Rivington was wrong, and that his own first feeling of astonishment was unwarranted. Fresh urine did not contain anything which could do harm as far as causing inflammation was concerned. This had been shown experimentally by extensive injections of fresh urine into the peritoneal cavity in animals, when it was found that the urine was absorbed and subsequently excreted, no evil resulting. In a case of rupture of the bladder, this absorption of urine from the peritoneal cavity could not be so innocuous as in the case of healthy animals, and probably the death in such a case as the present was not so much from peritonitis as from uræmia. Unlike the healthy animal, a man with a ruptured bladder could not excrete the urine after absorption. Suppose it to be eliminated by the kidneys and to pass on to the bladder, it escaped again into the peritoneal cavity, and thus a vicious circle was established. It was remarkable that in one case life should be prolonged for two days, and in the other for five days, after the rupture took place without anything that a pathologist could recognise as inflammation occurring. In the Gartnavel case there was not even any exudation at the edge of the rupture as examined under the microscope; certainly there was less exudation than was seen in a wound exposed to the air. In naming the above days for the period of prolongation of life, he was supposing that the ruptures

¹ Published in full in the *British Medical Journal* of 21st July, 1894, p. 121.

occurred at the time of the onset of the serious symptoms. The last point to which he would draw attention was the site of the ruptures, namely, on the posterior aspect at the junction of the upper and middle thirds. In reply to *Dr. Rutherford*, *Dr. Coats* added that the ruptures had been transverse.

Dr. Oswald spoke as to the date of rupture in the *Gartnavel* case. He thought that if the rupture did take place at the time of the onset of serious symptoms, then there must have been a secondary rupture shortly before death. The patient had collapsed, and died very suddenly within half-an-hour of expressing himself as feeling rather better. It was to be mentioned also that, during the period of serious symptoms, he had passed urine naturally more than once, though in small quantities. This urine was healthy, as was that drawn off by the catheter, except on one occasion hereafter noted.

Dr. Oswald did not see how the urine could have been passed naturally by contraction of the bladder, supposing this rupture to have then existed and to have been patent. At the *post-mortem* the rupture had seemed to have one part fresher than the other, suggesting that it had not all occurred at one time. In this connection, he might mention that on one occasion there was found in the urine drawn off by the catheter a small quantity of blood. At the time it was thought that the passage of the catheter—a soft rubber instrument—in the patient's excited condition, had slightly injured the parts; but at the examination there was seen to be a small clot of blood just at the extremity of the rupture, and the giving way of this vessel probably led to the occurrence of the blood in that particular sample of the urine.

Dr. Oswald stated that, in addition to the *post-mortem* examination by *Dr. Coats*, the matter was reported to the fiscal, who held an enquiry, but concluded that there was no reason to suspect that the patient had been the subject of violence.

In conclusion, he remarked on the extreme difficulty there was in treating such cases in which the mental element was one of excitement and incoherency, a difficulty little understood or sympathised with, except by those who had had charge of such cases.

Dr. Hector Cameron had, as Surgeon to *Gartnavel*, seen the first patient and agreed fully with *Dr. Oswald* as to the great anxiety which the case had occasioned then. This anxiety would be understood if he mentioned that the parents of the patient had called on him (*Dr. Cameron*) almost every evening to learn his latest views on the matter, and that the father,

somehow or other, had formed a very strong opinion that the illness was due to violence. Clinically, Dr. Cameron would have said that there was peritonitis, as indicated by tympanitic distension, with slight tenderness, so far as one could make out, in the patient's mental condition. There had been some doubt in their minds as to the cause of this supposed peritonitis, Dr. Yellowlees favouring the view that there was ileo-cæcal inflammation, in support of which view was the fact that there had been some difficulty in having the bowels moved in the first instance. They had never thought of rupture of the bladder; as mentioned by Dr. Oswald, urine had been passed naturally and drawn off by the catheter. The blood which had come on one occasion of using the instrument he (Dr. Cameron) had supposed at the time to be from the urethra, and to have been explained by some injury due to the struggling. If he had thought of any rupture at all, it would have been a rupture of the intestine, and the father had, somehow or other, had the idea that rupture of the bowel had taken place, and been occasioned by an attendant kneeling on the abdomen. The most careful enquiry had, however, shown that there was no ground for suspecting any violence. How the rupture of the bladder occurred was a mystery to him.

Dr. Charles Workman referred to a case which he had seen recently in the *post-mortem* room of the Royal Infirmary with rupture of the intestine, the rupture completely dividing the bowel, and having its edges ecchymosed. Dr. Steven and Dr. Dunlop, who had made the examination, had concluded that the rupture was due to violence, but there was no other trace of the violence to be found. So far, that case resembled those now shown by Dr. Coats, but there was this difference that, in the case of rupture of the intestine, peritonitis had been set up, whereas there was none in Dr. Coats' cases. Both in Belfast and in Glasgow, Dr. Workman had had experience of insane persons and of the things that happened to them, and he had learned to place no confidence in any statement as to there being "no violence" to account for injuries which were sustained by such patients. He knew, of course, that the statements made in connection with the Gartnavel case were made with perfect sincerity; but he would point out that the violence need not be on the part of the attendants, and he submitted details of a case which he had himself seen, in illustration of the fact that insane persons might take advantage of the slightest distraction of the attendants' attention to inflict serious injuries upon themselves. In the present case from Gartnavel there might have occurred some

movement on the patient's part of sufficient violence to produce this rupture, without the attendants observing it.

Mr. Clark wished to speak of certain symptoms which were of importance in the clinical diagnosis of such cases. The symptom which seemed to have been present in the Gartnavel case was the great diminution in the quantity of urine. Dr. Oswald had mentioned a certain number of ounces as having been passed on several occasions (naturally and by the catheter), but it must be remembered that that was over a period of five days. The small amount of urine passed was a distinctly leading sign in any case of rupture of the bladder. As regards the other patient, there did not seem to be any definite statement on this point or as to the use of the catheter. This was, however, the first thing that should be attended to whenever there was abdominal distension and tenderness.

Then, as to the condition of the urine, Dr. Oswald had mentioned the passage of blood upon one occasion. Blood was usually found in cases of rupture if the patient were seen early. Most of the cases seen by *Mr. Clark* had been under observation within a few hours of the rupture taking place, and there had been a considerable quantity of blood in the urine drawn off. This symptom was one which was likely to be found in the early stage, but, as illustrated by the present case, its occurrence later on was doubtful.

The question of peritonitis had been discussed. Dr. Cameron had said that, from the observation of the patient during life, he would have expected the peritoneum to be found inflamed. A similar view seemed to have been held in the other case. The question might be raised as to whether inflammation had been present and passed off; but *Mr. Clark* was disposed to agree with Dr. Coats in regarding the urine, if uncontaminated by septic matter, as innocuous in respect to the peritoneum, and in believing death to have been due to uræmia. In the cases he had seen, death had occurred, but it had probably been due to the severity of the other injuries present. If the patient survived these, and there was no peritonitis, it was difficult to see what explanation, other than Dr. Coats's, could be given for a fatal termination.

Both of the cases now under discussion seemed to have been suitable for treatment by abdominal section and suturing. If the rupture could be diagnosed, he thought that one should feel encouraged to adventure such operative procedure.

Dr. Rutherford spoke with regard to the question of violence. Dr. Cameron had seemed to indicate that greater violence would be required for the rupture of the bladder than for

that of the intestines. There was, however, another element to consider (besides the degree of violence), and that was the distension of the bladder. The importance of this had been impressed upon his mind while examining some specimens in the museum of the Liverpool Royal Infirmary. In one of them the cause of rupture had been set down as a fall, the patient being in vigorous health; indeed, he had been running a race at the time. In running one could do himself harm, but was not likely to sustain damage of a nature nearly so serious as that due to a kick upon the abdomen. The bladder was, indeed, subjected in running to a general shake, and one had only to remember the weight and unyielding nature of water to understand how the bladder could, if distended, be thus injured.

Dr. Coats, in reply, spoke of the question of the amount of urine drawn off by catheter. With a ruptured bladder it was, of course, possible to draw off urine by catheter from the peritoneal cavity, instances of this having been done being mentioned in Rivington's book. Catheterisation might thus give misleading results. In connection with the second case, it was interesting to find that Rivington said that, in many cases, rupture of the bladder took place while the patient was under the influence of alcohol. In explanation of this fact, there should be remembered the probability of the patient's bladder being distended on account of the imbibition of fluid, his unconsciousness, and the way in which he knocked himself about.

In the diagnosis of acute peritonitis, *Dr. Coats* would have thought the temperature to be an important indication. It had not been elevated in either of these cases.

Dr. Oswald explained that, in the Gartnavel case, it had been impossible to take the temperature properly on account of the patient's great restlessness.

Dr. Hector Cameron added that, in the worst cases of peritonitis—as, for example, when an ovariectomy went wrong—the temperature did not become elevated; indeed, it was often subnormal.

III.—A CASE OF CYSTIC DEGENERATION OF THE LIVER, IN WHICH AN EXPLORATORY INCISION WAS MADE.

BY DR. HECTOR C. CAMERON.

Dr. Cameron brought this case under the notice of the Society because of the rarity of the condition illustrated by it. The patient was a lady, past middle age, who had had

a family. She had been sent to him by Dr. Miller, of Cross-hill; and Dr. W. L. Reid, who had seen her, had suggested an exploratory incision. On examination of the abdomen, it had been evident that there was present a large multilocular cyst, but it had been equally evident that this had no connection with the pelvis. The hand could be inserted under its edge, and the tumour pushed upwards, but it could not be pushed downwards towards the pelvis. The lower border extended almost down to the os pubis, and the whole abdomen and loins were completely filled by the mass. All over its surface there were globular irregularities, distinctly fluctuant, but there was no fluctuation between them. Clearly, therefore, it was a multilocular abdominal cyst of some sort.

An exploratory incision had been made, in greatest extent above the umbilicus. On the abdominal cavity being opened, there had appeared what at first was taken to be an adhesion, but proved, on further investigation, to be the suspensory ligament of the liver. Most of the tumour was unlike liver, and was made up of hundreds of cysts, the largest being of the size of a small melon. It was not until they had continued the examination downwards that anything resembling normal hepatic tissue had been found, the lower edge of the right lobe being free from cysts, and the gall-bladder being there also recognised.

Dr. Cameron had not been familiar with the condition thus discovered, but Dr. Rutherford, who was assisting at the operation, had told him that he had read of cystic degeneration of the liver in connection with cystic degeneration of the kidneys, and occurring in the same patients. He had mentioned, also, having seen an illustration of it in the New Sydenham Society's *Atlas of Illustrations of Pathology*, and this plate (Fasciculus iv, Plate xix) Dr. Cameron now showed, reading the following description of it:—

"Cystic Disease of the Liver.—From a man, aged 53, under the care of Dr. Pye-Smith in Guy's Hospital. He had been a hard drinker, and died of chronic pneumonia. The liver was of natural size, but puckered and deformed from the presence of depressions on the surface, due to cysts in the subjacent parenchyma. The cysts were very numerous, and varied from microscopic dimensions to cavities of considerable size; they contained thin, clear, slightly albuminous liquid, free from bile, and no connection with the ducts could be discovered. The kidneys were 64 ounces in weight, and were converted into similar cysts. . . . The case is recorded in the *Transactions of the Pathological Society of London*, vol. xxxii, p. 112."

The condition shown in that plate was, however, a mere bagatelle to that found in Dr. Cameron's patient, the abdominal swelling in her case having been evident through her clothing, and indicating great distension.

The wound had been stitched up, without even puncturing any of the cysts, as one naturally felt tempted to do. He had feared that, if he tapped, there might have been leaking afterwards. It was a good axiom that, if an exploratory incision had been made, and the surgeon had come to see that no good could be done by further operation, the abdominal cavity should be closed up at once. The cases that died after exploratory incision were those in which in such circumstances the surgeon tried to go further, in the hope that some further light might be found. The patient had made a good recovery, and was now in as good health as before. The only thing she complained of was of dyspeptic attacks, from which she had suffered occasionally all her life. This freedom from symptoms he thought rather remarkable.

Dr. Coats would show a specimen from the Western Infirmary Museum, which illustrated a condition similar to, but by no means so marked, as that found in his case. Dr. Finlayson had referred him to a description of cystic degeneration in Frerich's book.¹

This was the second occasion upon which Dr. Cameron had opened the abdomen and found a cystic condition of one of the important organs there situated. The other case he had published already.² In that case the seat of the cyst (the pancreas) had not been recognised until it was revealed at the *post-mortem* examination. It had been a large unilocular cyst, and one circumstance which had been noticed, and which he had since learned to be a certain diagnostic sign of pancreatic cyst, was the discovery during operation of a large artery, running from right to left, over the front of the tumour. This he had tied at two points, and cut between. The artery was the splenic artery, which, if found on a cyst of that kind in the upper part of the abdomen, proved it to be pancreatic. In one case, reported by Saltzer, the diagnosis had been made by feeling the pulsations of the artery through the abdominal wall. Dr. Cameron thought that they might have been felt in his case if he had known to examine for them.

He thought he could now recognise another case like the present; having made the mistake once, he would be on the

¹ New Sydenham Society's translation (1861), vol. ii, pp. 223, 224.

² *Glasgow Medical Journal*, 1887, vol. ii, pp. 163, 211.

look out for this condition another time. The edge felt had been so like the edge of an enlarged liver that that possibility should have been thought of, but a cystic condition of the liver such as this he had not heard of before.

Dr. Coats showed the specimen from the Western Infirmary Museum to which Dr. Cameron had referred. It is described in the catalogue (Series V, No. 4A) as follows:—

"*Cystic Liver [and Kidneys]*. (Dr. Gairdner.) Slices of the liver are preserved, showing on section the principal cysts. The seat of cysts is chiefly the left lobe, which is converted into a congeries of cysts. The cysts, however, especially at the anterior part, extend into the right lobe, and, in addition, there are a number of other cysts, single or in groups, the principal of these being on the upper surface about the middle of the right lobe. This also is shown on section, and is seen to consist mainly of two large cysts which penetrate somewhat deeply into the liver substance. The kidneys showed cystic disease. (See Series VI, No. 8A, where also the history will be found.)"

Dr. Coats said that this conjunction of cystic transformation of kidney and liver was of great importance from the pathological point of view. He thought it a very frequent conjunction. The cysts in the liver he had shown were very much smaller than those described by Dr. Cameron; but in all cases in recent times at the Western Infirmary cystic transformation of the kidneys had been associated with the presence of small cysts in the liver. In one recent case they had thought at first that there were none in the liver, but closer examination had revealed them. All this seemed important in connection with the pathology of cystic transformation of the kidney. It was generally thought that the latter affection was due to obstruction from connective tissue growth, but this conjunction suggested the necessity of looking for another cause.

Dr. W. G. Dun asked Dr. Cameron as to whether there had been any pain in his case, and was answered in the negative. He raised the point because he had recently had in the Western Infirmary a case in which the diagnosis of cysts in the liver had been confirmed on *post-mortem* examination, and in which pain had been much complained of. He had aspirated and got away a limited quantity of serous fluid. The patient had died after leaving hospital, and the *post-mortem* examination had been a limited one, so that he could not say what had been the condition of the kidneys. A case resembling Dr. Cameron's had been published in the *Archives of Surgery* by Jonathan

Hutchinson, who there remarked on the rarity of the condition.

Dr. Fleming asked if there was no question of hydatid in those cases.

Dr. Cameron replied that there was not. In addition, he stated that the only other case in which he thought he might have been dealing with cyst of the liver was one operated on in the Western Infirmary, when a cyst had been sessile on the liver. Three-fourths of it had been cut away and the remainder stitched to the wound. The patient had recovered, and was now quite well except for a ventral hernia such as one was perfectly certain to get in cases which were thus treated. The remainder of her liver had looked quite healthy.

IV.—REMARKS ON "MALIGNANT DISEASE IN DISPLACED ORGANS."

BY DR. HECTOR C. CAMERON.

Under the above title, *Dr. Cameron* brought under the notice of the Society a series of cases in which organs (glandular or, at any rate, highly organised), being congenitally displaced, had become the seat of malignant disease when the cancer age was reached.

One organ which might be so displaced was the *testicle*, and he did not think that the dangers of undescended testicles were sufficiently recognised either by patients or their medical attendants. Suppose the testicle to remain in the canal, it was necessarily exposed to frequent irritation. A case in point was that of a young man who three times had suffered from acute orchitis with effusion in such a testicle, and who had said that he thought he would ask that it be removed if the swelling recurred. Removal had been advised, and it had been explained to the patient that, while the organ was merely subject to irritation in the meantime, later on it might be the seat of some morbid degeneration. The first case of this kind which *Dr. Cameron* had met with had been seen by him when he was assistant to Sir Joseph Lister. It occurred in a patient of *Dr. Samuel Moore*. There was a tumour of an undescended testicle in the groin, which was removed, and he would say, looking back from this point of time, it was probably a sarcoma. The next case had also been a patient of *Dr. Moore*, and had not only an undescended testicle, but also an inguinal hernia, for which he had worn a truss. The first patient also had worn a truss, and *Dr. Cameron* thought that that had much to do with irritating

the testicle, and with the development in it of malignant disease. The hernia in this second case had become cured; but the testicle, in later life, had enlarged, and, on removal, had been found carcinomatous. Six months later dyspeptic symptoms supervened, and soon there were evidences of cancer in the liver and disseminated nodules over the abdominal cavity, probably in the peritoneum. Death had taken place two years after removal of the primary tumour. In a third case hernia had been present from an early age. An operation for radical cure of the hernia had been performed, and the surgeon operating had found an atrophied undescended testicle. He had pulled it down and left it just outside of the external inguinal ring. Five or six years later this testicle began to swell, and when Dr. Cameron saw the case, in consultation with the surgeon who had first operated, it was already larger than the clenched fist. There was, at that time, also, some pyrexia, with cough, expectoration, and dulness over one lung. The diagnosis then made was that of sarcoma of the testicle, and death had subsequently taken place from sarcoma of the lung. The reason that action had not been taken earlier had been that there was a history of syphilis, and the swelling had at first been supposed to be due to syphilitic disease. A fourth case had also the combination of undescended testicle and hernia. A truss had been worn for some time, and had been discontinued without the hernia returning. The testicle had subsequently become enlarged, and, on removal, it had been found to be carcinomatous. That was two years ago, and the patient was still well. Dr. Cameron saw a fifth case quite similar to those narrated, about two years ago, in the late Sir George H. B. Macleod's Clinique.

Here, then, were five cases of malignant disease occurring in a testicle which was out of position and ill-developed. This want of development, as predetermining to the occurrence of cancer, he had already drawn attention to in connection with the etiology of scirrhus of the mamma during the discussion on cancer in the Glasgow Pathological and Clinical Society, as reported in the *Glasgow Medical Journal*, vol. i, 1886. He believed it was an observation of pathologists that ill-developed organs of this kind were prone to cancer when the cancer age was reached. Organs, also, which were subject to irritation showed a like tendency. An undescended testicle, unfortunately, had both of these characteristics.

Passing now to another part of the body, Dr. Cameron related the case of a female patient who had had a cancerous ulcer at the anterior axillary fold. Her account of her

ailment had been that she was born with "a wart" there, which had occasionally been fretted and become inflamed, but had not otherwise troubled her until within a year of her coming under observation. It had then, however, become very sore and had discharged blood, an ulcer forming at the part. On examination, there had been seen what did look like the remains of a wart at one part of the ulcer. The affected portion of skin had been widely removed by an elliptical incision. That was four years ago, and there had been no further trouble. Dr. Coats had examined the specimen, and had found that the supposed wart was a supernumerary nipple, which had become the seat of epithelioma.

Every now and then one had the opportunity of seeing malignant disease developing in cases of multiple wens. Many might be removed, and one day a cancerous condition be found in one. It was a question if all such ulcerative developments in wens were carcinomatous, but sometimes they were so. Dr. Cameron had had as a patient lately a man, 60 years of age, who had a congenital dermoid cyst on the buttock which he could remember to have been present since boyhood. It had become inflamed and suppurated, and had been opened. As it had shown no sign of healing, but rather become fungating, the doctor in attendance had put the patient under chloroform and scraped it out. He had cut off a piece of the cyst wall and, on examination at the pathological department of the Western Infirmary, this had been found to be epitheliomatous. Dr. Cameron had ultimately removed the sore, together with a large part of the skin and of the gluteus maximus. He had found no adhesions to important structures (nerves or vessels) and, by-and-bye, by grafting he had obtained a good result. Lately, a swelling of the size of a hen's egg had appeared in the groin. This had been removed, and the patient continues well as yet.

V.—SPECIMENS OF WOOD'S PAINFUL SUBCUTANEOUS TUMOUR.

BY DR. JOSEPH COATS.

Dr. Coats showed sections of these specimens, as well as other microscopic preparations, by means of the projection microscope. The specimens will be described in detail in an article upon the subject to be published at an early date.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

PHYSIOLOGY.

By WILLIAM SNODGRASS, M.A., M.B., C.M.

Where is Urea Formed in the Bodies of Animals?—M. Kauffmann (*Archiv. de Physiol. Norm. et Patholog.*, July, 1894) has made numerous and varied experiments in order to answer this question. As a result of these, and looking also to the statements of many who have studied the subject, he believes that in spite of many discrepancies of opinion we may arrive at the following conclusions:—

1. Urea seems to exist in all the tissues of mammals.
2. Its proportion is greater in the tissues than in the blood.
3. All the tissues seem to produce urea, but in very different quantities.
4. The liver is, among mammals, the most active seat of the formation of urea.
5. The production of urea seems to be bound up with the phenomena of denutrition which appears in the various tissues, and especially in the work of elaboration and preparation of nutritive materials incessantly going on in the liver.

The Amount of Proteid Necessary for Daily Food.—L. Lapique (*Archiv. de Physiol. Norm. et Patholog.*, July, 1894) finds that the amount of proteid required to maintain a healthy condition in adults under ordinary conditions is about 1 gramme per kilo. of body weight. This figure is somewhat lower than that usually given by dietetic authorities, but Lapique has examined the diets not only of Europeans, but of Japanese, Malays, Abyssinians, and other Eastern races. This amount does not represent the quantity of albumin necessarily destroyed daily in the human organism—much of it is never digested nor absorbed—but the minimum quantity that should be present in the diet of a healthy adult.

The Oxidising Power of the Blood.—MM. J.-E. Abelous and G. Biarnès (*Archiv. de Physiol. Norm. et Pathog.*, July, 1894) have studied the possibility of an oxidising power residing in the blood as distinguished from that of the tissues. Jaquet, studying the oxidation of benzylic alcohol and of salicylic aldehyde, concluded that the blood has a feeble power of oxidising the former, but not the latter. Abelous and Biarnès, on the other hand, find that blood can oxidise salicylic aldehyde, though the blood obtained from different animals varies in this respect. The temperature of the blood exercises an appreciable influence over the intensity of the oxidation. The oxidation of salicylic aldehyde by the blood seems to be independent of the presence of the corpuscles and of hæmoglobin. The organs (lungs, kidneys) have also, and to a higher degree than the blood, this oxidising power.

The Absorption of Odours by Milk.—Parville relates some interesting facts upon this subject (*Deutsche Med. Zeitung*). If a can of milk is placed near an open vessel containing turpentine, the smell of turpentine is soon communicated to the milk. The same result occurs as regards tobacco, paraffin, asafetida, camphor, and many other strong smelling substances. Milk should also be kept at a distance from every volatile substance, and milk which has stood in sick chambers should never be drunk. The power of milk to disguise the taste of drugs as potassium iodide, opium, salicylate, &c., is well known.

The Preservation of Milk by Oxygen.—The preservation of milk in its fresh state has hitherto been a desideratum. Several systems have been tried—sterilisation at 100° C., pasteurisation, condensation, freezing, &c., but in all the milk undergoes material change.

M. Villon, says *La Journal des Debats*, after studying the effects upon brandy of oxygen, and of carbonic acid gas under pressure, turned his attention to milk under the same conditions.

Fresh milk in an air-tight vessel is compressed with oxygen to kill the germs, and kept in cans of 100 litres under pressure of two atmospheres. M. Villon affirms that in this condition the milk will be in a state of perfect preservation after a voyage lasting for months. It supports heat varying from 80° C. to 100° C., without coagulation; whereas, ordinarily, milk rapidly curdles if maintained at a temperature of from 50° C. to 75° C. The milk thus preserved has the taste of fresh milk. M. Villon holds that by his process all germs are killed, and if his statement be correct, the importance of his discovery alike for the transportation of milk for considerable distances, and for the destruction of the micro-organisms of disease that may have found their way into the milk, can scarcely be over-estimated.

Death of the Heart in Asphyxia.—Charles Richet (*Archiv. de Physiol. Norm et Patholog.*, July, 1894) finds that the duration of life in the heart during asphyxia depends upon the temperature of the animal, being prolonged by cooling of the body. The slowing of the heart's action in asphyxia by the action of the vagus is an action of self-defence upon the part of the organism, and if the heart be prevented slowing, asphyxia supervenes very rapidly. The heart dies quickly in the atropinised asphyxiated dog, not because it has consumed the oxygen of the blood, but because its contractions have produced a poison which would only disappear by oxidation, or it has used a substance which is only reproduced by oxidation. The dying gasps come two or three minutes after the circulation has ceased. The respiratory centres in atropinised animals survives the cardiac asphyxia by two or three minutes, but when the heart has been made to beat more slowly the medulla is asphyxiated before the heart.

MEDICINE.

By T. K. MONRO, M.A., M.B.

Remarkable Vaso-Motor Disturbance of the General Cutaneous Surface.—Unna showed to the Society of Physicians in Hamburg a woman, æt. 40, who had suffered from this condition for three years. An attack of erysipelas was followed by elephantiasis of the forehead, and complete baldness of the peripheral portion of the scalp. Thereupon the vaso-motor phenomena appeared on the forehead in the form of large red and white spots and streaks, which disappeared as suddenly as they came. The patient had suffered continuously since then from ulcers, which constituted the acme of peculiar vaso-motor disturbances. Bluish-violet streaks would appear and form ring-like figures. Then various isolated spots would become darker, and finally get quite black. In the next place, the central part of each spot would undergo necrosis, leading to the formation of a parchment-like scab, which would fall off in a few days, and leave a flat, very painful ulcer. Such ulcers healed with great difficulty, but still did so, in course of time, spontaneously. A smooth cicatrix was the result. At the time of the demonstration it was chiefly the knees, buttocks, and right arm that were covered with ulcers.—(*Deutsche Med.-Zeit.*, 28th June, 1894.)

Mercurial Polyneuritis caused by Antisyphilitic Treatment. The following case is recorded by Engel:—A married woman, æt. 29, was

admitted to hospital on account of pain in the throat. Syphilitic ulcers were present on the tonsils, and the lymphatic glands were enlarged. After eighteen inunctions of mercury, paræsthesia was complained of in the upper, and soon afterwards in the lower, extremities. Ten days later the following conditions were present:—Paresis of the right abducens oculi; paresis of the upper extremities; severe disturbances of sensation; extreme ataxia, with diminution of reflexes and abolition of the knee-jerks; paralysis of the legs, so that the patient lay helpless in bed. No stomatitis or mercurial tremor. There was no fever; but albuminuria existed for four days, and then passed off.

Inunction was suspended for a fortnight, being replaced by the administration of iodide of potassium. Thereafter two series of inunctions (of 6 each) were carried out, but still no change took place in the patient's condition. At the end of a month from the first intermission of mercurial inunction, all antiluetic treatment was stopped, and daily bathing and peripheral faradisation took its place. A speedy improvement in the general state now began, and before long the severe nervous symptoms underwent considerable amelioration. Six weeks from the time when specific treatment was finally given up, slight sensory anomalies in the upper limbs and absence of the knee-jerks were the only remaining symptoms of the nervous disease. The author has no doubt that the neuritis was induced by the administration of mercury.—(*Deutsche Med.-Zeit.*, 14th June, 1894.)

In the *American Journal of the Medical Sciences* for August there is an interesting essay, communicated from the laboratory of Prof. Obersteiner of Vienna, by James D. Heard, on "Certain cases of heteropia of white matter occurring in the human medulla oblongata." The literature of this form of congenital abnormality is exceedingly limited, but the subject is none the less interesting on that account. The writer states that the condition has not yet been observed to exist bilaterally. "The most frequent and fairly constant histological anomaly appears to be the presence of a column of white nerve fibres arising at the level of decussation of the pyramids, and thence proceeding upward, occupying a position internal to the substantia gelatinosa. The fibres of this column may take origin from the lateral or from the posterior column. In certain instances these fibres have been traced above into the corpus restiforme, but this termination has seemed improbable in other cases in which the fibres have apparently extended to a much higher point."

Meigs and de Schweinitz publish a case of round-celled sarcoma of the anterior mediastinum, with metastatic growths in the brain, both choroids, the oculo-motor and optic nerves, and external ocular muscles. The case is interesting in various ways, but particularly on account of the manner in which the eyes and structures connected with them were involved. Careful examination after death showed that the new growth travelled forwards from the cranial cavity along the oculo-motor nerves to some of the muscles supplied by them. It also extended in a peripheral direction by way of the optic nerves. The sarcomatous deposits in each choroid were limited to a certain area of the membrane, and were surrounded by comparatively healthy tissue not contiguous with infiltrations elsewhere located; while the blood-vessels within them, and in their immediate vicinity, contained cells which were apparently of the same character; so that the authors believe themselves justified in considering these deposits to be of metastatic origin, probably embolic.

Fuchs, who, in *Das Sarcom des Uveal Tractus*, Wien, 1882, brought the literature up to date, stated that metastatic choroidal sarcoma was unknown, and quoted Virchow's teaching "that those organs which exhibit a great tendency to protopathic tumour-formation present a very slight inclination to metastatic deposits."

The writers of the article now under consideration say "it is scarcely conceivable that the choroidal growth under these circumstances could have

been the primary one, although, as is well known, in a few instances, extremely small and totally unsuspected growths in this situation have been followed by very extensive metastasis; in one case, quoted by Fuchs, a melanotic mass was found in the heart secondary to a small sarcoma in a sunken eyeball, which had existed in this condition for more than twenty years." Apart from the characters of the growth in the eyes, the rarity of mediastinal sarcoma, except as a primary tumour, is an argument in favour of the metastatic origin of the deposits in the choroids.—(*American Journal of the Medical Sciences*, August, 1894.)

Passage of a Maximum Thermometer through the whole Digestive Tract.—Ten days after swallowing an iron teaspoon, a prisoner swallowed a thermometer with which his temperature was to be taken. The instrument was of glass, 113 mm. ($4\frac{1}{2}$ inches) long, and 6 mm. ($\frac{1}{4}$ inch) thick. The spoon and thermometer were passed *per anum* nine days later. The maximum temperature was registered at 38.7° C. (101.66° F.) During the whole time the thermometer was within the body the temperature was regularly taken in the axilla. The highest temperature was 37.2° C. (98.96° F.) The observed difference, therefore, between the temperature of the axilla and that of the interior of the body amounted to 2.7° F.—(Quoted in *Deutsche Med.-Zeit.*, 20th August, 1894.)

Phlebitis in Early Phthisis.—Hirtz remarks that phlebitis in the later stages of phthisis is a familiar occurrence, and is due to the great tendency of the blood of cachectic persons to undergo coagulation. But phlebitis may be met with when only the earliest symptoms of the disease are present. It is difficult to demonstrate organisms in the vessel-walls, and microbes quickly disappear from thrombi. According to Vaquez, very few organisms are to be found in coagula after fifteen or twenty days, and it is by no means easy to get cultures. The organisms are often identical with those that caused the primary disease, but more frequently they are due to secondary infection, and are of the usual kind. According to Weigert, tubercle bacilli may be present in the walls of veins; and, indeed, their energy there may give rise to the first symptoms of a hitherto unsuspected tuberculosis. Hirtz communicates seven cases in which phlebitis occurred at the commencement of pulmonary phthisis, some months even before lung symptoms appeared. This early thrombosis is different from the marasmic form. It does not continue so long; it always passes off in three weeks or less. The non-obliterative (periphlebitic) variety is more common than the obliterative. Hirtz says that—contrary to Weigert's opinion—an acute tuberculosis with rapid course does not necessarily follow tuberculous infection of a vein.—(*Deutsche Med.-Zeit.*, 23rd August, 1894.)

Pulmonary Gymnastics in Phthisis.—Dr. Henry Hughes of Bad Soden remarks that till forty years ago phthisis was believed by the profession, as well as by the laity, to be necessarily accompanied by progressive loss of body-weight. A second error, which is, however, still largely accepted, was that a tubercular infiltration cannot recede, so that a dull area produced in this way cannot come to yield a normal percussion note. The writer, having found that such clearing up does take place, particularly in young patients and in those who do much mountain-climbing, was led to try to remove consolidations of the lung by exercises involving great increase of respiratory activity. The more he investigated this subject the more reason did he find to believe that pulmonary exudations dependent upon tubercle may be induced so to recede as to become inappreciable by percussion, though, naturally, cavities, cicatrices, &c., cannot be expected to give place to normal tissue.

As regulated exercise is now admitted to be important in developing the strength of the cardiac muscle, Hughes would recommend respiratory gymnastics as an invaluable method in the treatment of chronic phthisis. There

are only two contra-indications, fever and hæmorrhage; but even these are not absolute. In high fever, exercise is to be avoided on account of the great sense of bodily weakness; but in slight pyrexia it may be beneficial. Hæmorrhages from the apices are no objection; the patient should wait for three or four weeks, and then cautiously begin his exercises again. Even the existence of large cavities does not necessarily contra-indicate. A patient who, in the course of the summer, had developed a large cavity, gained 12 lb. in weight in the autumn under walking exercise; in the following spring he took a regular course of respiratory gymnastics, and was soon well enough to resume his studies at the teachers' seminary.

Only one occurrence is to be feared, and that is hæmorrhage from a cavity. In such a case exercise is to be absolutely forbidden. Even if a modified form of gymnastics were serviceable, the patient would attribute to it any new outbreak of bleeding that might take place.

One great advantage of respiratory gymnastics is that we get an idea in this way whether the patient will ever be fit for work again. As soon as he is able to stand the more trying exercises, he will be able to resume his ordinary occupation.

The author first orders walking exercise to strengthen the muscles of the loins, hips, &c. The patient then undergoes, during four weeks, a course of instruction in various exercises which he is afterwards to carry out at home, and which are specially designed to call forth the activity of the respiratory system. By appropriate changes in the movements, and by gradual increase in the demands made upon the parts exercised, most encouraging results may be obtained in a short time. The occupation which this gives the patient, and the distraction of his attention from his own illness, are in themselves benefits of no mean kind.—(*Blätter für Klinische Hydrotherapie*, Aug., 1894.)

Muscular Cramp in Relation with the Phenomena of Angina Pectoris and Intermittent Claudication of the Extremities.—F. Parkes Weber, in concluding an interesting paper with this title, remarks that true angina pectoris has long been separated from the nervous cases (pseudo-anginas); it has been regarded as due to stenosis of the coronary arteries of the heart, and as analogous to certain premonitory signs of dry gangrene caused by stenosis of arteries in the extremities. It is here maintained that muscular cramp does not take any necessary part in angina pectoris, or in the phenomena preceding senile gangrene in an extremity, but that cramp is likely to occur in any muscle where an accumulation of waste products takes place, whether this accumulation be caused in healthy muscles by rapid catabolism in the course of excessive exercise, or by insufficient removal of the waste products in cases of disease of the main arteries, and consequent diminution of the blood-stream through the affected parts. It is further held that these cramps, when they do occur in angina pectoris, are expressed by the syncope, which may accompany the attack, and lead to a fatal termination.—(*American Journal of the Medical Sciences*, May, 1894.)

Infantile Scurvy, especially its Differential Diagnosis.—An elaborate and most interesting paper upon this subject was read by Dr. Fruitnight at the last annual meeting of the American Pediatric Society, and is published in the *Archives of Pediatrics*, July and August numbers of this year. Some illustrative cases are recorded in detail, and it is significantly noted in regard to several of them that the diet prior to the child's illness had consisted of artificial foods. The author's conclusions as to the nature of the disease are summarised as follows:—

"1. It is the result of a faulty nutrition which leads to a deviation from the normal chemical composition of the blood, probably a deficiency of its alkalinity.

"2. The disease is characterised by a blood dyscrasia, accompanied by structural changes in the coats of the blood-vessels.

"3. The bone and joint lesions, the spongy condition of the gums and the

petechiæ constitute a triad of symptoms highly pathognomonic of the disease. One or both of the two last named symptoms may be lacking.

"4. The order of the development of the symptoms seems to be: first appear the tenderness and swellings of the lower extremity, then the sponginess of the gums, and finally the hæmorrhagic extravasations.

"5. Under the treatment these symptoms begin to improve in the same order of sequence, the epiphyseal lesions disappearing more rapidly than the other two.

"6. If there be any doubt of the diagnosis of a given case, recourse should be had to the therapeutic test of an anti-scorbutic regimen, which will, by its results, in a comparatively short space of time determine the question beyond cavil.

"7. The prognosis is nearly uniformly favourable under proper treatment, and the likelihood is that, as physicians become more familiar with and competent in diagnosing the disease, its mortality will be reduced to *nil*.

"8. The main principle involved in the treatment of infantile scurvy is comprised in the institution of anti-scorbutic dietetic measures."—J. H. C.

GYNÆCOLOGY AND OBSTETRICS.

By E. H. LAWRENCE OLIPHANT, M.D.

An External Direct Method of Measuring the Conjugate Vera.—Dr. Howard Kelly contributes an article on this subject to the *Johns Hopkins Hospital Reports* for this year. Dr. Kelly insists on the importance of pelvimetry in completing the rational history of gynæcological cases. Thus, to the obstetrician pelvimetry is of immediate or future value, while to the gynæcologist it is retrospective and explanatory. In obstetric practice the true conjugate must often be merely estimated from the conjugata diagonalis, as the actual conjugate diameter in question is blocked at the time the measurement is made by one of the fœtal poles, head or breech. Opposite conditions prevail in gynæcological cases. Here, instead of a relaxed and softened vagina of the pregnant state, frequently the vault is rendered rigid by scar tissue, or if inflammatory masses, or pyosalpinx, or adherent ovaries and tubes choke the pelvis, the displacement of the vault of the vagina cannot be effected to a degree sufficient to allow the finger to reach the promontory of the sacrum, and thus take the diagonal conjugate. On the other hand, in the gynæcological case the superior strait is free, and measurements sufficiently accurate for practical purposes can be made directly from symphysis to promontory through the abdominal wall.

The measurement is made by simply pressing the extended hand, with palmar surface down, through the abdominal walls until the tip of the middle finger rests directly over the promontory of the sacrum and the palm rests on the symphysis pubis. This distance is then measured on the examining hand. Dr. Kelly in this way estimated thirty-one consecutive cases. The measurements were all made on women just before an abdominal section, and the estimated diameter was at once compared and corrected by ascertaining the true diameter immediately upon opening the abdomen. In both measurements the nearest centimetre or half centimetre marking on the scale was taken as the proper measurement. Thus, in 23 cases with moderately thick abdominal walls, and 8 with thick abdominal walls, he was correct in 11. In 17, the error was less than half a centimetre; in 2 cases, 1 centimetre; and in 1 case $1\frac{1}{2}$ centimetre. The more contracted the pelvis the less is the liability to error.

To make an accurate measurement, the patient must lie so that the abdominal muscles are perfectly relaxed. The examiner then makes a graduated pressure above the symphysis pubis with the palmar surface of his hand, palpating

deeply towards the vertebral column, feeling for the promontory of the sacrum with the tips of the fingers, sweeping from the abdominal cavity down into pelvis, deeper and deeper each time until the characteristic median projection is recognised. The fingers of the open flat hand are then swept several times down into the pelvis over the promontory, gaining a distinct impression as to its exact position. Then the fingers are allowed to rest vertically above the promontory [with reference to the erect position]; thus is the posterior point of the true conjugate diameter fixed. The middle finger of the free hand is now passed down behind the symphysis pubis, until the most prominent point on its posterior border is felt. Directly over this an indentation is made with the finger-nail on the outstretched hand. Then the distance from the mark on the palm to the tip of the finger will give the true conjugate. The chief source of error arises from measuring directly over the summit of the symphysis, or from pressing the finger tips against the promontory instead of over it, thus interposing the thickness of the abdominal wall.

Operations for the Suspension of the Retroflexed Uterus. (*Johns Hopkins Hospital Reports*, 1894.)—In this number Dr. Howard Kelly gives a series of forty-five cases in which he operated for retroflexion by stitching the uterus to the abdominal wall. He had previously, in five cases, shortened the round ligaments intra-peritoneally, but abandoned the operation, as it failed to keep the uterus in position or to relieve the patient's suffering. In his earlier cases he operated by passing two ligatures of silk or silkworm gut on either side through the peritoneum and subjacent tissues about 2 cm. away from the abdominal incision and parallel to it, and then around each utero-ovarian ligament respectively, when they are tied, lifting the uterus up snugly into antelexion. The second method he describes in detail, and insists that it is an essential feature of these operations that the uterus should be held into antelexion by attaching its posterior surface to the abdominal wall. In many of the earlier operations the round ligaments and the anterior surface of the uterus were utilised. This placed the uterus at a serious mechanical disadvantage, as it simply hung by its weight in anteposed retroflexion. He now operates as follows:—The usual antiseptic and other precautions being taken, an incision is made, about 2 inches long, closer to the symphysis than usual in pelvic operations: the incision in the peritoneum is of the same length as that through the skin, varying with the thickness of the abdominal wall. The peritoneum on each side of the incision is caught with forceps and drawn out of the abdomen. This is to avoid passing the suture through the peritoneum too close to the incision, and thus invaginating the peritoneum. The retroflexed uterus is now lifted up and brought into antelexion.

The anterior abdominal wall is lifted from the intestines and exposed. A medium-sized silk ligature is carried through the peritoneum on one side about 1½ cm. from the edge of the incision and just above the symphysis. The uterus is now exposed at its posterior surface, and the ligature is passed through this posterior surface just below the fundus, taking in about the same amount of tissue as on the anterior abdominal wall; the ligature is then carried through the peritoneum on the opposite side; the ends are brought out at the lower angle of the wound, and tied firmly, so as to secure the uterus to the abdominal wall, but care must be taken not to invaginate the peritoneum in the wound. A second suture is similarly passed 1 cm. above the first through the abdominal wall, and through the uterus just below the first. Any bleeding from needle puncture ceases on tightening the ligature. The forceps are now released from the peritoneum, which is closed with a continuous suture of fine silk: the skin, fascia, and muscles are united by silkworm gut, with fine silk between for superficial approximations. The wound is dressed antiseptically. The bladder must not be allowed to become over distended, and the patient is kept in bed for three weeks.

By this operation the uterus is not fixed but suspended. The operation has been successful in cases both of young nulliparæ and of multiparæ.

DISEASES OF THE EYE.

By FREELAND FERGUS, M.D.

In a recent paper, Dr. Risley of Philadelphia has attempted to prove that most cases of progressive myopia are to be accounted for by an error of refraction occurring in early life. Thus when a child attains school age and is nearly emmetropic, then he is safe from myopia. If, however, there is an astigmatism or a hypermetropia or hypermetropic astigmatism, then, as school work advances, the child often becomes the subject of myopia or myopic astigmatism. His statistics are elaborate, representing a great deal of hard work, and are worthy of a careful study.

In the present number of the *Archiv. d'Ophthal.*, Panus has an interesting article on oculo-motor paralysis following lateral pressure of the skull. He gives at one and the same time the results of clinical observation, and of some experiments which he has conducted. His conclusions are the following :—

1. The majority of cases of ocular paralysis arising from injury to the skull are due to fractures of the base.

2. The absence of depression of the bones of the vault does not at all exclude fractures of the base.

3. Those nerves which are most closely connected with the bones—namely, the sixth pair, are the most frequently affected.

4. Compression is derived either from the fracture itself, or from extravasation of blood in the skull. In the first case the paralysis takes place more or less immediately, in the second at a later period. It is also slower in making its appearance when due to inflammatory exudation.

Landolt, in the same number of the *Archiv. d'Ophthal.*, gives the ophthalmic public his views on strabotomy after twenty years of study. The object of the paper is to show the great superiority of advancement over tenotomy. By muscular advancement he, of course, means the detachment of the muscle and its attachment by means of sutures, which hold the muscle firmly attached in the neighbourhood of the cornea till the new attachment is consolidated.

By a good result of an operation for strabismus, Landolt means not merely an apparently normal position of the eye, but such a result as will give binocular fixation in all normal parts of the field of binocular fixation.

Even in cases of simple insufficiency of convergence or divergence, tenotomy does not give such good results as advancement. In the author's opinion, tenotomy for insufficiency of convergence sacrifices a large share of the power of abduction for a very small gain in the power of convergence. Such a proceeding is very apt to cause internal squint.

On the other hand, if the degree of strabismus is great, there are other objections to tenotomy. Here, especially, a tenotomy rarely effects the desired cosmetic effect. In addition, there is generally some projection of the eyeball and shrinking of the caruncle, and the excursion of the eye in a lateral direction is limited.

Muscular advancement is just the opposite of tenotomy. Here the excursion of the eye is increased in the direction of the advanced muscle, while the power of the antagonist is not diminished.

It seems that advancement exercises a very special influence in convergence and divergence. Both these functions are increased much more than by tenotomy, and that without prejudice to the opposite movement. Landolt's views are exactly the opposite of the majority of operators. Most regard tenotomy as indicated in muscular insufficiency, latent strabismus and strabismus of low degree. These are just the cases in which the author operates by advancement.

Further, in tenotomy, there is the constant fear of an over-correction. That never occurs in advancement.

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ORIGINAL ARTICLES.

THE PERIOD OF INCUBATION IN TYPHOID, WITH
NOTES OF TWO CASES UNDER ANTISEPTIC
TREATMENT.

By A. M. ANDERSON, M.D.,

Medical Officer of Health, and Medical Superintendent, King's Cross
Fever Hospital, Dundee.

(With Two Temperature Charts.)

HITHERTO the period of incubation in typhoid fever has been matter of conjecture based upon analogy. The purpose of this paper is to record two cases of typhoid which were under daily observation for some time before the commencement of the typhoid illness, and which afford tolerably definite evidence regarding the period of incubation. At the same time they illustrate the efficacy of the new treatment by salol, in combination with chlorodyne and lac bismuth, in arresting the course of the disease, and preventing the ulceration of the intestinal glands. Both patients were sent into the hospital as typhoid, but were found to be suffering from only a chest affection which subsided in a few days. Thereafter, as the charts of temperature show, there was no evidence of fever for some time—in one case for ten, and in the other for fourteen days—when the temperature rose suddenly, and the symptoms of typhoid developed. Both patients contracted typhoid in the hospital in a rather singular and unusual way,

which enables me to define with reasonable certainty the limits of the incubation period.

CASE I. The following gives a condensed report of my notes:—

J. G., aged 8, admitted 10th August, 1893. Been ill about fourteen days.

Temperature on admission, 100°. Evening temperature, 101.2°.

11th August, 1893.—Pulse, 96. No stool, no spots, no iliac tenderness. Tongue furred. Pupils dilated. Some cough, with bronchitis over back of both lungs. To have enema and hot water bag to back.

Morning temperature, 99.2°. Evening temperature, 101.4°.

12th August.—Pulse, 84. One stool after enema, formed. Tongue dirty. Had a restless night.

Morning temperature, 98.6°. Evening temperature, 97.8°.

13th August.—Pulse, 96. No stool. Tongue furred. Pupils dilated. No spots. No iliac tenderness. To have enema.

Morning temperature, 98.2°. Evening temperature, 98°.

Thereafter, as the chart shows, the temperature remained normal until the evening of the 21st, when it was 99.4°. On the 22nd the morning temperature was 99.6°, and the evening temperature 99.8°.

23rd August.—Pulse, 120. No stool. Had a restless night, and this morning vomited a large quantity of greenish matter. To have castor oil.

Morning temperature, 102°. Evening temperature, 102°.

(As it turned out, the rise of temperature and the restless night on the 22nd marked the beginning of typhoid.)

24th August.—Pulse, 120. One stool, constipated. Had a restless night. No vomiting. No spots. Repeat oil.

Morning temperature, 102.4°. Evening temperature, 102.8°.

25th August.—Pulse, 120. Two stools after oil, the last rather pea-soupy in character. Tongue furred. Abdomen distended, with iliac gurgling. Chest normal. Had a restless night.

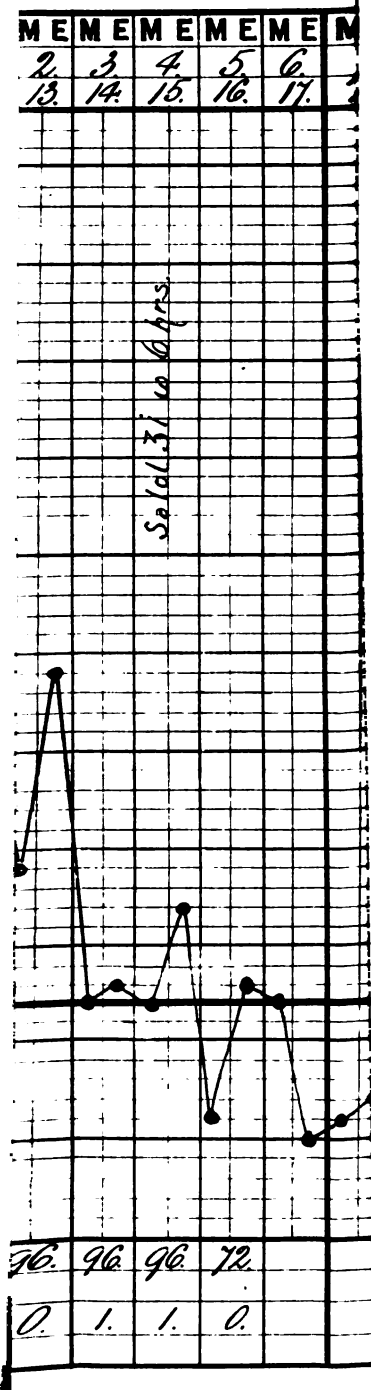
Evening temperature, 6. 103.4°. 9. 104°. 12. 103.4°.

26th August.—Pulse, 108. Two stools, loose. Had a restless night. Tongue furred. Pupils normal.

Morning temp., 3. 103.8° 6. 102.0° 9. 99.6° 12. 101.2°

Evening temp., 3. 102.2° 6. 103.2° 9. 103.4° 12. 103.0°

of Temperature, Pulse, Respiration



27th August.—Pulse, 112. No stool. Tongue furred. Abdomen swollen, but not tender. No spots.

Morning temp., 3. 100·0° 6. 100·4° 9. 99·6° 12. 100·4°

Evening temp., 3. 100·4° 6. 101·4° 9. 103·2° 12. 100·4°

Give mist. salol, 1 dr. every two hours.¹

28th August.—Pulse, 96, weak. No stool. Abdomen swollen, not tender. Tongue furred. Pupils dilated.

Morning temp., 3. 98·8° 6. 97·4° 9. 97·6° 12. 97·2°

Evening temp., 3. 98·0° 6. 103·4° 9. 104·4° 12. 101·8°

Reduce mist. salol to 1 dr. every four hours.

29th August.—Pulse, 96, weak. One stool after enema, loose and dark. To have brandy.

Morning temp., 3. 100·6° 6. 102·4° 9. 100·0° 12. 99·6°

Evening temp., 3. 101·4° 6. 103·4° 9. 103·6° 12. 100·4°

30th August.—Pulse, 108. No stool. Tongue dirty. No delirium, but occasional moaning in sleep.

Morning temp., 3. 101·6° 6. 101·6° 9. 99·8° 12. 98·4°

Evening temp., 3. 99·0° 6. 103·2° 9. 103·4° 12. 103·2°

31st August.—Pulse, 112. No stool. No delirium, but moans in sleep. Three isolated rose spots on abdomen. Urine smoky. Increase brandy. (First appearance of the typhoid spots between the tenth and eleventh day.)

Morning temp., 3. 100·4° 6. 99·6° 9. 100° 12. 99·2°

Evening temp., 3. 101·4° 6. 100·2° 9. 101° 12. 100·4°

1st September.—Pulse, 108. One stool after enema, semi-solid and dark. No delirium. Urine slightly smoky.

Morning temp., 3. 101° 6. 100° 9. 98·8° 12. 98·6°

Evening temp., 3. 99·4° 6. 102° 9. 102·4° 12. 101·4°

2nd September.—Pulse, 96. No stool. Tongue moist. No delirium.

Morning temp., 3. 101·8° 6. 99·8° 9. 99·8° 12. 98·4°

Evening temp., 3. 98·2° 6. 101·6° 9. 101·8° 12. 101·4°

3rd September.—Pulse, 96. One stool, after enema, slight and constipated. No delirium. Slept well.

Morning temp., 3. 101·4° 6. 99·2° 9. 98·4° 12. 98·6°

Evening temp., 3. 100·4° 6. 100·2° 9. 98·6° 12. 99·8°

¹ R.—Pulv. salol, 160 gra.
 Chlorodyne (B.F.), 160 minima.
 Lac bismuth (Syme's), 2 oz.
 Aq., ad 8 oz.

Sig.—For adults, 10 dra. every two hours; between 6 and 14 years, 2 dra. every two hours; under 6 years of age, 1 dr. every two hours.

4th September.—Pulse, 96. One stool, after enema, formed, and of greyish colour. Tongue moist. Reduce mist. salol to 1 dr. every six hours.

Morning temp., 3.	100·2°	6. 98·8°	9. 98·4°	12. 97·4°
Evening temp., 3.	97·6°	6. 99·4°	9. 99·4°	12. 99·2°

5th September.—Pulse, 72. No stool.

Morning temp., 3.	98·0°	6. 98·8°	9. 97·2°	12. 97·6°
Evening temp., 3.	97·4°	6. 97·4°	9. 98·6°	12. 97·8°

The typhoid began with rise of temperature on the evening of 21st August and on 5th September, being the fifteenth day of illness; the course of the disease is completely and permanently arrested.

6th September.—

Morning temp., 3.	97·4°	6. 97·2°	9. 98·4°	12. 98·0°
Evening temp., 3.	97·6°	6. 97·0°	9. 97·0°	12. 97·4°

7th September.—

Morning temp., 3.	97·2°	6. 98·0°	9. 97·4°	12. 97·2°
Evening temp., 3.	97·2°	6. 97·0°	9. 97·4°	12. 97·0°

Thereafter, as the chart shows, the temperature remained below normal until 20th September, when it regained the normal line, and so continued until the patient was discharged cured on 13th October.

The salol was stopped on 13th September.

CASE II.—J. M., aged 5, admitted 24th April, 1894. Illness began on the 20th. Sent in as typhoid. Temperature on admission, 103·8°.

Evening temp., 6.	102·2°	9. 104·2°	12. 103·0°
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25th April.—Pulse, 120. No stool. Tongue furred. No spots. Has pneumonia of lower half of left lung, with wheezing bronchitis over whole of chest.

Morning temp., 3.	103·6°	6. 103·4°	9. 103·6°	12. 103·6°
Evening temp., 3.	102·0°	6. 103·8°	9. 103·2°	12. 103·4°

To have jacket poultices round chest, and small doses (2½ grs.) of salol tabloids every two hours, with the view of lowering the temperature, and inducing perspiration.

It is not necessary to occupy space by giving notes of the daily progress of the chest affection. Reference to the chart will show that the temperature, which was regularly taken every three hours until 26th June, subsided to normal on

June. 1894.
Result.

Result.

45



2nd May, and that on the 3rd, 4th, and 5th, the evening temperature was slightly above the normal line. From 5th May until 20th May at 9 P.M. there was no evidence of fever. The following is the temperature for 21st May:—

Morning temp., 3.	98·0°	6.	98·2°	9.	98·8°	12.	97·6°
Evening temp., 3.	97·4°	6.	98·0°	9.	102·0°	12.	102·4°

21st May, at 9 P.M., marks the commencement of what proved to be an attack of typhoid fever.

22nd May.—

Morning temp., 3.	101·4°	6.	101·2°	9.	100·0°	12.	100·6°
Evening temp., 3.	103·4°	6.	104·4°	9.	103·6°	12.	102·4°

At 9 P.M., exactly twenty-four hours after the onset of fever, in view of the sustained high temperature without obvious cause, I suspected, from previous experience, this might prove to be another case of typhoid contracted in hospital, and therefore ordered mist. salol, 1 dr., every four hours.

23rd May.—Pulse, 96. One stool, after enema, semi-solid, and light in colour. No pain. No spots. No cough. No delirium. Face highly flushed.

Morning temp., 3.	102·4°	6.	102·0°	9.	103·2°	12.	102·0°
Evening temp., 3.	104·4°	6.	105·0°	9.	100·0°	12.	105·0°

2 P.M., increase mist. salol to 1 dr. every two hours.

24th May.—Pulse, 120. No stool. Tongue furred. Had a restless night. Chest normal. Two doubtful spots on abdomen.

Morning temp., 3.	101·2°	6.	103·0°	9.	101·0°	12.	103·6°
Evening temp., 3.	103·6°	6.	103·0°	9.	102·6°	12.	103·2°

25th May.—Pulse, 120. Two stools, one after enema, and one during night, both loose, lumpy, and dark. Tongue furred. Abdomen distended, not tender. No delirium. Slept fairly well. Perspiring about face and head.

Morning temp., 3.	102·2°	6.	101·8°	9.	102·0°	12.	102·0°
Evening temp., 3.	103·0°	6.	102·6°	9.	103·8°	12.	103·4°

26th May.—Pulse, 120. Three stools, without enema, all liquid, with dark and light matter mixed. Muttering in sleep, and often crying out. No perspiration. Abdomen swollen. One doubtful fresh spot.

Morning temp., 3.	103·0°	6.	102·6°	9.	103·2°	12.	102·6°
Evening temp., 3.	103·4°	6.	103·4°	9.	103·0°	12.	102·6°

To have small doses of brandy.

27th May.—Pulse, 120. Eight stools, all loose and greenish, and each stool preceded by pain. Muttering talk in sleep. Tongue skinning. Abdomen swollen. No vomiting. No perspiration. The doubtful spots have disappeared.

Morning temp., 3. 103·4° 6. 103·2° 9. 101·4° 12. 103·6°

Evening temp., 3. 103·6° 6. 102·8° 9. 103·6° 12. 102·6°

Increase brandy, and give one-fourth lead and opium pill every four hours. Hot cloths to abdomen.

28th May.—Pulse, 112. Two stools. Loose and green. Tongue clean, and dry in centre. Slept fairly well, with some muttering talk. Abdomen less swollen and softer. Vomited four times. No perspiration. Urine clear, straw colour.

29th May.—Pulse, 112. Two stools, without enema, loose, dark, mixed with light specks; no green matter. Tongue clean and moist. Slept better, less muttering talk. Abdomen still slightly swollen. Several doubtful spots. Slight perspiration about face and head. Reduce pills to a quarter every six hours.

Morning temp., 3. 102·0° 6. 102·2° 9. 100·6° 12. 100·2°

Evening temp., 3. 100·8° 6. 101·8° 9. 102·2° 12. 102·4°

30th May.—Pulse, 108. Two stools, without enema, dark, with light specks mixed. Slept well. Slight perspiration.

Morning temp., 3. 101·0° 6. 100·8° 9. 100·2° 12. 100·2°

Evening temp., 3. 100·8° 6. 100·6° 9. 100·2° 12. 101·6°

31st May.—Pulse, 108. No stool. Tongue clean. Abdomen much reduced. Slept well. No talking. Skin moist all night.

Morning temp., 3. 100·4° 6. 101·4° 9. 100·6° 12. 101·6°

Evening temp., 3. 100·2° 6. 100·2° 9. 101·2° 12. 102·2°

1st June.—Pulse, 108. One stool, without enema, semi-solid and dark. Slept well. Tongue clean and moist. No delirium. Skin moist. Abdomen soft, and not tender. Reduce mist salol to 1 dr. every four hours.

Morning temp., 3. 101·0° 6. 100·6° 9. 99·6° 12. 99·8°

Evening temp., 3. 99·6° 6. 101·6° 9. 102·0° 12. 101·6°

2nd June.—Pulse, 108. No stool. Had a restless night. Free perspiration about head. Increase brandy to 3 oz.

Morning temp., 3. 102·0° 6. 101·2° 9. 99·0° 12. 102·6°

Evening temp., 3. 104·0° 6. 104·0° 9. 104·2° 12. 101·2°

3rd June.—Pulse, 112. Two stools, one before and one after enema; the first constipated and dark; the second

formed, with some slimy matter. Slept fairly well. No delirium. Free perspiration for two hours during night. Six isolated rose-spots on upper part of thighs, and two on abdomen. Omit lead and opium pill.

Morning temp., 3.	99·8°	6.	98·8°	9.	102·6°	12.	103·4°
Evening temp., 3.	101·8°	6.	101·0°	9.	102·2°	12.	102·8°

4th June.—Pulse, 108. One stool, without enema, slight and green. Tongue clean and moist. Slept fairly well. Three fresh rose-spots, one on abdomen, and two on right thigh. Yesterday's spots fading a little. Distinct tenderness over spot midway between umbilicus and edge of liver. Give a quarter lead and opium pill every four hours.

Morning temp., 3.	101·6°	6.	100·0°	9.	99·2°	12.	98·6°
Evening temp., 3.	98·6°	6.	98·2°	9.	98·2°	12.	98·6°

5th June.—Pulse, 96. No stool. Spots faded, all but two on right thigh, and one on abdomen. Slept well all night. Tenderness referred to in last note continues, but easier. Free perspiration more or less constant.

Morning temp., 3.	97·2°	6.	98·2°	9.	97·2°	12.	97·6°
Evening temp., 3.	98·2°	6.	99·6°	9.	99·8°	12.	98·2°

Had no salol since 2 P.M. on the 4th. Stopped because of low temperature and general coldness.

This is the fifteenth day of the typhoid illness, and the course of the disease is completely and permanently arrested.

6th June.—Pulse, 84. One stool, after enema, formed and dark, with some slimy matter. Slept well. No delirium.

Morning temp., 3.	97·2°	6.	96·8°	9.	97·2°	12.	97·4°
Evening temp., 3.	97·4°	6.	98·6°	9.	99·4°	12.	98·4°

7th June.—Pulse, 96. No stool. Slept well all night.

Morning temp., 3.	97·6°	6.	97·0°	9.	97·4°	12.	97·6°
Evening temp., 3.	97·4°	6.	97·0°	9.	97·6°	12.	97·4°

On 8th June the lead and opium pills were reduced to one-fourth every six hours, and on the 12th were stopped. From 7th June onwards to the 26th the temperature was taken every three hours, and was always below normal. On the 26th it regained the normal line, and so continued until the patient was discharged cured on 13th July.

Remarks.—The singular efficacy of this method of treatment in typhoid fever, which I discovered in September, 1892, and have since applied in 142 cases of typhoid, the manner in which the salol administration produces and maintains anti-

sepsis of the intestinal canal, thereby suppressing the specific typhoid poison, and the precautions to be observed in directing the treatment, have been fully stated in my papers on the subject, published in November, 1892, and February, 1894.

It is not, therefore, necessary to repeat those particulars here. But the two cases herein recorded present several points worthy of consideration.

It does not often happen that one gets daily observations of a patient before, during, and after the course of typhoid fever. In the first case we have the morning and evening temperature for eleven days before the typhoid began, and in the second we have the temperature taken every three hours for about four weeks before the typhoid began. In both patients the high temperature caused by the chest affection soon subsided, followed in the one case by nine days, and in the other by nearly three weeks of low temperature. During the interval both patients were quite well, taking nourishment freely, and putting on flesh. In both patients all the symptoms of typhoid developed, and in both the course of the disease was completely and permanently arrested on the fifteenth day of illness. I am aware that certain ill-defined febrile disorders, frequently called gastric or typhoid, do occasionally abort at some indefinite time, either by chance or treatment. But I maintain that, in the observation and treatment of perfectly clear and unmistakable typhoid fever, the evidence afforded by such febrile disorders is not relevant. Intestinal catarrh and such like may suddenly subside, but the real genuine typhoid fever does not abort. On the contrary, until I applied this new treatment, it ran its usual dangerous course until the patient or the disease became exhausted. To regard the arrestment of typhoid by antiseptic treatment as a coincidence or a casual abortion of fever is to ignore evidence; because, from September, 1892, until this date, excluding all the cases (14) still under treatment, I have had 142 typhoid patients—not pseudo-typhoid, but the real disease—under this method of treatment; and I state, without doubt or hesitation, that in every case of uncomplicated typhoid coming under the treatment before the tenth day of illness, the course of the disease was arrested on the fifteenth day of illness, precisely as in the two cases above recorded. The same means applied to similar conditions has always produced, and is at this moment producing, precisely the same result—viz., arrestment of the disease on the fifteenth day of illness.

It will be observed that in the first case the treatment was

begun on the seventh day of illness, and in the second exactly twenty-four hours after the commencement of typhoid; yet in both alike the arrestment of the disease occurred exactly on the fifteenth day of illness. I have had many opportunities of beginning the treatment on every day of illness from the third to the ninth inclusive (here I am referring solely to uncomplicated typhoid before the tenth day), and in all the arrestment of the disease occurred on the fifteenth day. I cannot suggest any reasonable explanation why this treatment, when begun on the seventh, eighth, or ninth day of illness, should arrest the course of the disease exactly on the same day as when it is begun at an earlier stage.

I observe that in a large proportion of cases the first crop of typhoid spots generally appears on the front of the abdomen and chest on the seventh, eighth, or ninth day of illness. But occasionally, when there is not a single spot on the front of the trunk, perfectly characteristic typhoid spots may be found on the buttocks, on the upper part of the thighs, and on the back, followed in a few days by the appearance of similar spots on the front of the abdomen and chest. For two or three days after the arrestment of the disease, a few stray spots may occasionally appear, but not later.

In the second case there was pretty severe diarrhoea on the sixth, seventh, and eighth day of illness, the stools being liquid and mostly of a greenish colour. In cases of typhoid coming under this treatment at an early stage liquid stools are of rare occurrence, and are always associated with congestion of the descending colon or of the duodenum. When the latter is congested, the stools are mixed with greenish matter, and there is deep-seated tenderness at a spot midway between the umbilicus and liver. In that greenish diarrhoea of typhoid, which greatly influences the temperature, I find small and frequent doses of the lead and opium pill to be an excellent remedy, at the same time steadily persevering with the antiseptic treatment.

How did those two patients contract typhoid in a well-equipped hospital? As a matter of fact, there was a third patient who also contracted the disease in hospital, but unfortunately I have not in my possession a full record of the case.

For a long time the manner in which those three patients contracted the disease was an insoluble puzzle. I may state at once that all ordinary methods were simply impossible, because the wards are perfectly constructed and ventilated,

the walls coated with Keene's cement, the floors of polished oak set in asphalt on concrete. Each patient has 2,000 cubic feet of air-space and 12 square feet of floor space, and every article on the beds and the towels, &c., used by the patients came through Lyon's disinfecter and the laundry before being used. Every bed is made up with fresh clean straw, and the excreta from all patients are promptly and carefully attended to. The arrangements of bathrooms and water-closets are perfect; besides, the two patients reported in this paper never left their beds until they were convalescent from typhoid. Judging by ordinary experience the contraction of typhoid in such wards, and under such watchful care, seemed impossible. But the new method of treatment introduced an element of danger which was not at first recognised. Under the anti-septic treatment, from the combination of salol with chlorodyne and lac bismuth, the bowels are liable to become obstinately constipated. Hence it is necessary in most cases to give an enema of warm water and soap every second day. As it happened, the nurse used the same enema syringe for giving an enema to the patients in the wards, some of whom suffered from typhoid fever, whilst others, including the three patients above referred to, suffered from various diseases. In that way the specific typhoid virus in the lower bowel of the typhoid patients became attached to the nozzle of the syringe, and thereby was introduced to the bowel of the neighbouring patients. I suppose the contraction of typhoid in that singular manner is unprecedented. I took precautions forthwith which will effectually prevent a repetition of such an extraordinary accident.

Referring to the charts of temperature, it is obvious there was a considerable interval in each case, during which there was no evidence of fever. In each case there was, when admitted, clear evidence of a febrile chest disorder, which ran its course without any indication of typhoid. Thereafter, convalescence made daily progress until the rise of temperature indicated the commencement of typhoid. To suppose that those two patients contracted typhoid infection from an unknown source before their admission to hospital, and that it remained latent and incubating throughout the time of the chest disorder and also of the subsequent convalescence, appears to me a far-fetched and unreasonable theory, more especially in view of the discovery of a vehicle or channel whereby the typhoid virus might be directly transmitted from a known source of infection. Assuming, then, that the typhoid infection was directly transmitted on the nozzle of

the enema syringe, and thereby obtained access to the rectum, let us consider the dates to ascertain the time which elapsed between the lodgment of the virus and the first manifestation of the typhoid disease.

The first patient had an enema on 11th August, and another on 13th August, and no more. She had castor oil on 15th August, and again on the 16th, and that was all the medical treatment until 23rd August, when she got oil again. Therefore the infection was received either on the 11th or 13th of August, and as the first rise of temperature, being the commencement of the typhoid attack, occurred on 22nd August, the period of incubation could not be more than eleven, nor less than nine days.

The second case does not afford such definite evidence, because from the time of his admission, 24th April, onwards, until the rise of temperature on the evening of 21st May, the bowels were regularly moved by means of enemata. Referring to the chart, I am inclined to think the period up to 5th May may be excluded, because it is not probable that during the prevalence of the high temperature which then existed, the patient could contract a fresh specific fever. Therefore the probable period of incubation in this case was not more than sixteen days, but may have been less, how much less I cannot say.

The evidence in the first case is, I think, so clear and conclusive, there having been only two enemata on recorded dates, that, unless fresh evidence be forthcoming, I must hold the proved incubation period to be from nine to eleven days.

Reference to the charts shows that the subsidence of temperature on the fifteenth day of illness was permanent, and not a temporary effect, such as may be produced by antipyretics. In my opinion, the permanent subsidence of temperature, taken along with the total suppression of every sign or symptom of typhoid, indicates the prevention of ulceration of the intestinal glands by means of antisepsis of the canal. I hold that ulceration in typhoid cannot exist without exhibiting some sign of its presence.

From my daily observations of the effects of this new treatment, extending over two years, I am convinced the intestinal glands in typhoid begin to slough, or are on the verge of sloughing, on the tenth day of illness. Hence the importance of beginning the treatment at an early stage, with the view of preventing ulceration. That this treatment, when begun at an early stage of the disease, is capable of effectually preventing intestinal ulceration has long been my firm con-

viction. That conviction, based upon clinical observation, has recently been strengthened by pathological evidence recorded in the July number of this *Journal*.

In administering this treatment, a little experience and careful observation will soon show that it is necessary to distinguish between cases coming under treatment before and after the tenth day of illness, and also between cases of typhoid, pure and simple, and typhoid complicated by inflammatory lesions. Since September, 1892, I have had, in all, 142 typhoid patients under the new treatment, of whom 50 were cases of uncomplicated typhoid before the tenth day, in all of whom the disease was completely and permanently arrested on the fifteenth day of illness; 32 were uncomplicated typhoid after the tenth day of illness, all of whom rapidly recovered; in all, 82 cases of uncomplicated typhoid without a single death. Then I had 7 cases coming under treatment before the tenth day, in whom inflammatory complications developed after admission, 1 of whom died; 19 cases before the tenth day, with complications at time of admission, 5 of whom died; and 34 cases coming under treatment after the tenth day, with complications at time of admission, 9 of whom died. In the latter class, many of the cases were sent in at a late stage of the disease, with inflammatory complications almost certain to prove fatal, and, in fact, several died a few days after admission. The remedial value of any treatment cannot be judged by its effect upon patients in a moribund condition.

Of all the specific fevers, typhoid most frequently causes inflammatory lesions in various organs of the body, and this because of its seat of development, the intestinal glands, being so intimately related to the lymphatic system. The ulceration of those glands, and the absorption of noxious matter therefrom, leads to most dangerous inflammatory complications, chiefly in or near the ilio-cæcal region, the peritoneum, the descending colon, the pancreas and spleen, the duodenum (very frequently), the mesenteric glands, the lungs, and the parotid glands; more rarely in the kidneys and bladder. Such inflammatory lesions must necessarily affect the course of illness and of the temperature, and so when this treatment is begun at an early stage, without the temperature subsiding on the fifteenth day, careful examination will generally discover the seat of the lesion, which causes the variation from the usual result.

Hitherto, all treatment of typhoid has been applied to cope with and ameliorate the most prominent and dangerous

symptoms, because no remedial agent was known capable of arresting and curing the disease itself. This new antiseptic treatment applies effectual remedial agents, whereby the specific typhoid poison is destroyed and suppressed in its seat of development, and so the course of the disease is completely and permanently arrested, and the patient cured several weeks earlier than was ever before possible. Henceforth, the physicians who treat typhoid by the old and ineffectual methods will be like unto men going into battle with bows and arrows.

ON A RECENT VISIT TO THE CENTRAL INSTITUTE OF GYMNASTICS, STOCKHOLM.¹

By W. F. SOMERVILLE, M.A., B.Sc., M.D.

MR. PRESIDENT AND GENTLEMEN,—I had the honour some time ago of giving to the members of this Society a demonstration of Mr. Roth's method of treating lateral spinal curvature. This form of treatment I have been practising for several years. The various exercises recommended by him I have found of great service, not merely in the treatment of spinal deformity and defective chest development, but also in cases of anæmia and mal-nutrition—more especially where these occur in children and young adults. Of late this department of medical treatment has demanded my special attention to such an extent that, in the spring of this year, I deemed it advisable to increase my knowledge of the subject by visiting Stockholm, at present the centre of medical gymnastics.

Before commencing to describe a little of what I was permitted to see at the Central Institute there, let me say that for a holiday no finer country could be found than Sweden, and no fairer city in its way than Stockholm. One misses the mountains, glaciers, waterfalls, and fiords of Norway; but the eye of the tourist, on the other hand, is refreshed by the sight of forests and countless lakes, and by a city surrounded by canals and arms of the sea, and having in its vicinity scenery of surpassing beauty.

The Swedish School of Gymnastics was founded by the

¹ Read at a meeting of the Medico-Chirurgical Society on 12th October, when a demonstration also was given of the methods of treatment practised in the Institute.

fencing master Ling in the early part of this century; and when it is remembered that he lived at a period when physiology was imperfectly understood, one is struck with the wisdom he displayed in devising the multitude of exercises, and in his classification of different movements for various forms of disease.

At the present day in Sweden great attention is paid to the study and practice of gymnastics, as these may be employed not only for the physical training and development of children and for purposes of military drill, but also as a form of medical treatment. The chief gymnastic educational establishment is the Central Institute of Gymnastics in Stockholm. This includes two large and fully equipped gymnasia with lecture rooms, dissecting room and court yard for drilling. Besides being an institution for training pupils in the several forms of gymnastics, it has also the necessary arrangements and appliances for conducting its extensive clinic, at which patients attend for the treatment of various diseases.

This Institution is under state control, and is superintended by Professor Törngren, assisted by Professor Murray and Drs. Wahlgren and Levine, and Captain Silou. From all these gentlemen I received the greatest kindness both in public and in private. Indeed, the attention paid to me, not only by the "chiefs," but also by the pupils and even by the patients, was a matter of surprise and pleasure; and I recall with feelings of deep gratitude the many and varied acts of courtesy and kindness shown to me, a complete stranger, during my stay in Stockholm. Ignorance of the Swedish language I found no hindrance. English is better known in Sweden than French or German, and special attention is given in the schools to instruction in our language. Professors Törngren and Murray speak English perfectly, and with the other doctors and many of the pupils one can manage to carry on a conversation in English, assisted occasionally by a little German. Indeed, I found that those who knew English slightly were always anxious to have an opportunity of increasing their knowledge, especially if no critic were listening.

All instruction at the Institute is given free, and I was permitted to benefit by this provision like the other pupils. The number of pupils attending the Institute is about sixty to seventy males and twenty to twenty-five females, their ages varying from 18 to 23. The pupils who attend do not become, as many suppose, mere "rubbers," as at our Turkish

baths, but are thoroughly trained in the science and art of gymnastics, which they adopt as a profession. Many of them are thoroughly well educated gentlemen. Some of them are officers in the army and navy, who, while engaged in military and naval work during the summer, are permitted during the winter to attend at the Institute. Those who are not in the army or navy spend the summer at the various bathing and watering places, where they are employed by private medical practitioners.

There are three departments of gymnastics taught at the Institute—(1) Pedagogic, (2) Military, and (3) Medical. The course of instruction extends over a period of three years in the case of the male pupils. The female pupils, as they are exempt from military gymnastics, require only two years' training. The session lasts from September to May. The instruction given is of the most thorough description.

In the case of the male pupils, during the first session they have daily, under Captain Silou, an hour's hard work, from 7 to 8 A.M., at pedagogic gymnastics—that is the exercises specially suitable for children attending school. They have also an hour's drill at fencing daily. In addition, they attend lectures on anatomy and elementary physiology, given by the doctors of the Institute, and they are expected to do some dissection of the human body. During this winter also they have an opportunity given them of taking charge of small sections of school children for pedagogic gymnastics, in the presence of a qualified instructor.

At the end of the first session they enter for an examination in elementary anatomy (bones, ligaments, and muscles), and if successful they are called Military Instructors, and can act as such. They are not allowed to enter on a second session unless they have passed the first examination.

During the second winter they again attend at 7 A.M. for pedagogic gymnastics. They have lectures on senior anatomy and physiology, and are also expected to dissect. In addition, they attend lectures on medical gymnastics, including active and passive movements and massage in its various forms, and have opportunity thrice weekly of practising upon one another, under the direction of Dr. Wahlgren. At the close of this second session they have to pass an examination in theoretical and practical anatomy and physiology. They are now qualified to act as ordinary instructors in schools, and are called Teachers of Gymnastics.

I may here say that, in connection with each of the Government schools in Stockholm, there is a huge gymnasium where

all the pupils, boys or girls as the case may be, are compelled (unless exempted by medical certificate) to have an hour's instruction in gymnastics, under a certificated teacher, several times a week as part of the general school routine. I saw one or two of these beautifully equipped gymnasia, and was greatly impressed with the manner in which the instruction was given. Some of the exercises done by all the pupils at once were under the direction of a qualified teacher of gymnastics. Then the children divided up into small classes according to age, and were made to go through various exercises proportionate to their years, under the supervision of a first year's pupil of the Central Institute, all being done in the presence of the chief instructor.

During the third and final session at the Institute the students act as pupils at the clinics under a medical man. When a patient comes to the clinic he is examined by the doctor in charge, (Drs. Murray, Wahlgren, or Levine), who demonstrates the case to the pupils, and then writes out a prescription of suitable exercises, which one of the senior pupils follows out daily in the presence of the doctor. Each pupil has not more than four such patients at one time under his care for treatment. New patients are given to the pupils every month. In order that I might the better learn the treatment I myself became a patient, and was treated by a senior pupil from a prescription written out by the doctor for a new imaginary disease each day. After I had been treated, the pupil became the patient and I the operator.

During the final winter the pupils again attend lectures on anatomy, physiology, pathology, and medical gymnastics, and if they pass the final examination in these subjects, they take the title of Director of Gymnastics, and are qualified to undertake gymnastic treatment on their own responsibility.

When qualified, these Directors of Gymnastics practise their profession in Sweden or other parts of the Continent; indeed, there are at present two of them in our own city.

Besides the Central Institute, I visited several other institutions—*e.g.*, the Orthopædic Hospital, where medical gymnastics are employed. There are also several private gymnasia—*e.g.*, that owned by Director Liedbeck, a grandson of Ling, where the special feature of the treatment consists in the employment of the vibrator which he has lately devised and patented. I shall have the pleasure of showing this instrument to you afterwards.

I had, while in Stockholm, the privilege of meeting with Dr. Gustaf Zander. He was good enough to show me through

his institute, and to explain to me the actions and uses of his various machines. In 1857 Dr. Zander introduced a modification of gymnastic treatment—viz., by means of mechanical apparatus.

At the large institute of Dr. Zander I saw about seventy different machines, some for active exercises with resistance, others for passive movements produced by machines acting on the unresisting patient. The noise in the rooms reminded one of being in a factory. A young attendant is in charge of one or more machines, while each patient follows out a list of movements prescribed by Dr. Zander.

I also had an opportunity of seeing Dr. Zander examine a case of lateral spinal curvature. The measurements, taken by his own specially devised measuring machine, are of the most accurate description. One could not but be greatly struck with the genius and skill shown by Dr. Zander in devising so many and so varied machines. A complete set of his apparatus costs over £2,000. There are two other smaller Zander Institutes in Stockholm, one devoted entirely to lateral spinal curvature, and there are about twenty of these institutes, fully equipped, in different parts of the world.

In Stockholm the treatment of disease seems to be almost entirely by means of medical gymnastics, which are employed or prescribed by most of the doctors there, the term medical gymnastics including not merely active exercises, but also the various forms of massage used in suitable combination with active exercises.

While attending the various clinics opportunity was afforded me of seeing a large variety of cases—*e.g.*, deformities of spine and other joints, sprains, rheumatic joints, sciatica, paralysis, hysteria and other nerve affections, anæmia, and also cardiac, pulmonary, and alimentary disorders. During the two hours of a clinic perhaps as many as twenty to thirty patients attend for treatment. Let me again repeat that all these cases were examined by a qualified medical man, and that specific exercises had been accurately prescribed by him. After what I saw, I came away much impressed with the importance of this form of treatment, and the many conditions to which it is applicable.

I noticed with what great advantage active and passive exercises were combined. Hitherto in my own practice I had made use of active exercises only. Since my return I have found the greatest benefit, along with the active movements, to employ massage, carried out, in the case of female patients,

by a lady in a separate room. Unless it be a joint that is affected, it is best for the manipulations to be performed over clothing.

On the other hand, if massage and simple passive movements alone are made use of, we lose a powerful factor in not employing active exercises. For example, in cases of habitual constipation, it is not enough merely to massage the abdomen. The constipation may for the moment be overcome, but it will return unless by active exercises we strengthen the abdominal muscles, which, particularly in ladies who have worn stays all their lives, and perhaps also have borne several children, are in a particularly flaccid condition. Improve the tone of these abdominal muscles, and the act of defæcation will become an easier one. I am sure one reason why neurasthenic cases, where isolation, feeding, and massage are employed, so often relapse, even though flesh be put on, is because sufficient effort has not been made by simple active exercises to encourage the development of muscle. Such exercises are, of course, regulated according to the condition of the patient and the requirements of the case.

A further noteworthy feature of the treatment employed in Stockholm is that, except in the case of the qualified director of gymnastics, the medical practitioner himself prescribes minutely and in detail the exercises he considers suitable for each patient, and continues to direct, and if necessary to modify, the treatment until the patient is cured.

This, of course, involves a careful study of medical gymnastics and massage on the part of the members of the profession, as well as the existence of a class competent to carry out the necessary manipulations. In this country medical gymnastics and massage have not hitherto occupied a very prominent position. Medical men receive little or no training in the subject, and hence in practice have, in the main, to leave their patients in the hands of a *masseur* or *masseuse*, who may or may not be competent from the mechanical point of view, but who is, of course, quite unable to appreciate the pathological condition or to use the necessary judgment in the selection of the details of treatment. A general direction "to rub the patient for an hour daily" is certainly not giving this method of treatment fair play, and is little likely to secure the benefits which the treatment is capable of conferring.

My own experience has convinced me that the treatment, rightly employed in suitable cases, is of the greatest service, and I would venture to recommend to the members of this Society its more extensive study and practice.

I should like now to read my notes of a few cases that I have treated since my return from Stockholm, and thereafter, with your kind permission, to give you a demonstration, so far as I am able, of the general idea of the Swedish medical gymnastic treatment.

Weakness of Back and Anæmia.—Miss A., a tall girl of 6 feet, was sent to me by Dr. J. Crawford Renton, on account of weakness of the back, anæmia, and neuralgic headaches. The weakness was so great that I was warned of it by the mother before commencing treatment. The patient had nearly fainted the previous day, when standing in the doctor's consulting room. On examination of the back, the scapular angles were found to be very prominent, the right an inch below the left; a slight lateral curvature was present, with great increase of normal antero-posterior curve of back, with accompanying round shoulders, flat chest, and prominent abdomen. In eight weeks she had gained $3\frac{1}{2}$ inches across the chest, the back was quite straight, the scapular angles flat and level, the neuralgic headaches had disappeared, and there were no longer any evidences of anæmia.

Anæmia and Weak Circulation, with Defective Chest Development.—A. W., school-girl, æt. $13\frac{1}{2}$, sent by Dr. Trestrail, came to me on account of a feeling of weakness in her back, roundness of shoulders, and coldness of the hands and feet. A slight lateral curvature was noticeable, the chest was flat, scapular angles prominent, and a marked hæmic murmur was present. After less than a couple of months' treatment, the weakness of the back had gone, and the patient was able to walk a considerable distance without fatigue. The chest measured, from axilla to axilla, $14\frac{1}{2}$ inches, or an increase of $2\frac{1}{2}$ inches. The difference in the circumference of the chest during inspiration and expiration had been 1 inch; now it was $2\frac{1}{2}$ inches. The hæmic murmur had entirely disappeared. Dr. Trestrail, in a kind note to me at the completion of the treatment, says—"I to-day examined Miss W., and really never saw such an improvement in the development of any one in the same space of time. I found her chest quite altered in shape, and, instead of the shoulders falling forwards, they are now well out, giving breadth to the chest. Her spine, too, has recovered from the forward curve, and her head is consequently more erect. I hope she will continue your treatment, which has done so much for her; and I trust you will accept my congratulations upon the great success of this case."

Narrow Chest, Prominent Sternum.—A. M. S., a girl of 13, was sent to me by Dr. Samuel Sloan, on account of narrow chest with slightly prominent sternum. The sides of the thorax were flattened; the circumference of the chest, with hands up, just above breast, 24 inches. In a month's time there was an increase of exactly 1 inch round the chest, and an increase of $1\frac{1}{8}$ inch across the chest from axilla to axilla. Meanwhile patient had improved in health, the appetite had increased, and the pains in the chest had disappeared.

Defective Development of Chest.—A gentleman, æt. 22, sent to me by Dr. M'Kerrow, of Ayr, was rejected in spring when applying for entrance to the army. The medical report ran thus—"Chest measurement 32 inches—poor physique—slight myopia—unfit." The treatment of the myopia was out of my province; but a course of eight weeks' treatment by appropriate exercises, increased the circumference of the chest from 32 inches to $33\frac{3}{8}$ inches; measurement across the chest, from one axilla to the other, from $13\frac{3}{4}$ inches to $15\frac{1}{2}$ inches; the right biceps from $10\frac{7}{8}$ inches to $11\frac{3}{8}$ inches, and left biceps from $11\frac{1}{4}$ inches to $11\frac{3}{4}$ inches—in each case an increase of half an inch. There was also an increase in weight of from 9 st. 8 lb. to 10 st. $2\frac{1}{2}$ lb.—viz., $8\frac{1}{2}$ lb. The whole muscular system and physical condition were greatly improved; and, if permission be given to apply again for admission to the army, I have every hope of the patient being successful, provided the myopia does not prove too great an obstacle.

Anorexia with Indigestion and Constipation.—A gentleman, æt. 26, a patient of Dr. Garnett Wilson, came to me at the end of April, "feeling miserable." The bowels would not act even with enemata, the appetite was very poor, and food of any kind gave him pain. He was unable to work, and looked wretched. Though 6 feet in height, with big bones, he weighed, with his clothes on, only 10 st. 4 lb. After a couple of months' treatment he was much better, and able to digest food; the appetite had greatly increased. The constipation had improved, in so far as the bowels now acted after an enema. He had increased in weight to the extent of $10\frac{1}{2}$ lb. during his holiday; and since his return to town he has continued the exercises prescribed, and now weighs 12 st. 5 lb., or altogether an increase of 2 st. 1 lb. in four and a half months. Constipation, though still troublesome, is much relieved, the bowels now acting spontaneously, and the patient is enjoying his food.

Chronic Diarrhœa.—A. F., a boy of 6, came under my care for special treatment on account of a chronic diarrhœa extend-

ing over thirteen months. The motions were frequent—viz., two or three daily—of offensive appearance and odour, and necessitating sudden evacuation. The boy had been treated with many drugs, and for some weeks had been under the influence of nepenthe, prescribed by a London physician, a specialist for children's diseases. While the nepenthe kept the motions in check as regards number, their character was still unsatisfactory, and, in addition, the child had become peevish, querulous, and difficult to deal with. Shortly after commencing a course of massage and vibration of the abdomen with Liedbeck's vibrator, combined with exercises specially for the abdominal muscles, the nepenthe and all other drugs were discontinued. The diarrhoea disappeared, and gave place to a daily, single, satisfactory motion. The boy became lively and jolly, and I think Dr. Middleton, who saw him before and after treatment, will bear me out when I say that the personal appearance of the child was completely changed for the better. The treatment was discontinued in June, and the improvement in the boy's health has been fully maintained to the present day.

Weak Voice, &c.—A lady missionary from India came to me in April, sent by Dr. Macintyre, on account of weakness of voice. She was unable in addressing a meeting to sustain her voice, and even in private she spoke only with difficulty. Latterly her speech had taken the character of a whisper. After a week's treatment by vibrations, combined with massage and exercise of muscles of neck and larynx, she was able to speak in public for fifteen minutes and to sing loudly. After eleven days' treatment, patient declared she was quite well, and able to speak without pain or discomfort, and that her voice now never failed her. I saw the patient three days ago, and was glad to find her voice of good volume and strength.

Rheumatic Neuralgia.—A gentleman, æt. 38, sent by Dr. Macintyre, consulted me on account of an agonising pain in the right arm, experienced especially at night. There was marked tenderness on pressure over the front of the arm, and along the course of the ulnar and radial nerves. He had had rheumatic fever a few years ago, and since then has been occasionally subject to rheumatic pains in the arm. The present attack was the worst he had yet experienced. He could barely allow the limb to be touched, and massage was at first impracticable. After the use of Liedbeck's vibrator, however, the pain began to subside, and that night he had comparatively little discomfort. After five days' treatment with vibrations and massage the pain had entirely disappeared, and has not since returned.

In addition to these, I should like to say that I have found the treatment of great value in several cases of chorea in children.

From these and other personal experiences, it seems to me that this method of treatment is one which should be carefully considered by the profession, and in suitable cases adopted in connection with medical methods already established. It is only too familiar to all of us, that cases such as I have described often afford an unsatisfactory response to the administration of drugs, and we may reasonably hope to obtain assistance from a form of treatment which must necessarily directly improve the muscular system, and, by stimulating the circulation, increase the tone and activity of the nervous system and other organs.

I now propose, for the purpose of illustrating the forms of treatment adopted, to show you in detail the exercises that would be employed in three typical cases. Mr. M., who is a trained gymnast, has kindly agreed to act the patient. In the first place, I shall suppose that the patient is suffering from constipation, chronic diarrhoea, atonic dyspepsia, or other condition implying deficient tone in the abdominal muscles or viscera. Next, I shall illustrate the exercises which are found useful in that large number of cases where we find the patient, generally a young girl, suffering from anæmia, lateral curvature with droop of shoulder, flying scapulæ, narrow chest, poking chin, and general muscular atonicity. Perhaps, as a third example, in order to show the treatment as applied to peripheral nerve lesions, I may then rapidly go over some of the exercises prescribed in a case of sciatica, say, of the left limb.

Of course, it will be obvious that the majority of patients are, at the commencement of the treatment, quite unable to perform or suffer anything like the whole of the exercises I have gone over in each supposed case. The practitioner must necessarily use his judgment and discretion in proportioning the exercises according to the state of the patient, gradually increasing their number and severity as the condition of the patient improves.

The exercises I have shown you are but a few of the great numbers which are included in this method of treatment. If any members of the Society care to see the treatment in actual practice, I shall be very glad, if they will communicate with me, to give them what opportunities I have, at 2 South Park Terrace, where I am carrying out this system.

A CASE OF HÆMOPTYSIS AND SURGICAL EMPHYSEMA ARISING FROM FRACTURE OF A NECROSED LARYNX.

By GEO. S. MIDDLETON, M.A., M.D.,
Physician to Glasgow Royal Infirmary.

JOHN M'I., aged 70, was admitted to the Infirmary on 15th August, 1894, sent in as an urgent case of hæmoptysis. The following report is from the ward journal:—

"At 3 A.M. this morning (nine hours prior to admission) the patient, on rising from bed, slipped on the kitchen floor and fell. He struck the right side of his head, above the ear, on the edge of the kitchen dresser but he did not feel at all hurt, and thought nothing of the blow at the moment. He is not conscious of having struck any part of his body except the head. He got into bed again, and almost immediately was seized with cough, and put up about two teacupfuls of bright red blood. Five or ten minutes after the fall swelling was noticed in front of his neck and under the chin, spreading quickly up over the cheeks. This swelling was not observed to begin on one side, but seemed to be uniformly distributed over both sides of the neck. His breathing soon became laboured and wheezing, and the swelling increased over the neck, face, and upper part of the trunk.

"On admission, his face and neck are seen to be very much puffed up and of an ashy grey colour, and his breathing is so stridulous as to attract attention on the other side of the ward.

"The face and neck are greatly swollen, and the submental region bulged out so as almost to obliterate the division between the face and the neck. Swelling extends over the upper part of the trunk and round the back of the neck. Pressure elicits a crepitant sensation as of air in the subcutaneous tissue. The swelling is easily indented by pressure, on the removal of which the depression speedily fills up, a wave-like movement being seen under the skin as the air returns. This crepitant sensation can be felt in front all over the face, neck, chest, and abdomen as far as the groins, but it does not extend down the thighs. Behind, it extends over the nape of the neck, and up under the scalp, over the shoulders, and down the back to the iliac crests. The right arm is also the seat of crepitus as far as the elbow, and on the left arm it extends to the wrist.

"Patient is cyanotic, and breathing is very much embarrassed. He can speak only in a hoarse whisper. Little or no movement of the thoracic wall is seen on respiration; there is merely a slight lateral expansion of the lower ribs. The breathing is stridulous and almost entirely diaphragmatic. He coughs, and expectorates frothy and blood-stained mucus. He complains slightly of pain on pressure over the lower ribs on the left side, but nothing like fracture can be made out. Palpation is, however, of little value, owing to the swelling and the crepitus. There is no dulness on percussion of the chest, the note being rather tympanitic, and auscultation discovers loud wheezing râles over both fronts, with perhaps some moist râles at the left base. The respiratory sounds are masked by the crackle produced by pressure of the stethoscope on the chest. For the same reason, nothing definite can be made out regarding the cardiac condition, the sounds being barely audible. Pulse is 110 and slightly intermittent."

He died in the early morning of 19th August, never having shown any tendency to recovery. Breathing became attended with increasing difficulty, and increased in frequency from 27 to 44 per minute. There was no serious hæmoptysis after admission. Cyanosis became extreme. The emphysema extended down to the finger tips, but it never involved the thighs.

His pulse varied from 90 to 120, but was generally over 100 per minute. The temperature, which, on admission, was 97·2° F., rapidly rose to 101° F., and then oscillated between 99·4° F. and 101·6° F., the last record being 100·6° F.

Death was preceded for several hours by twitchings of the hands and legs, and by unconsciousness.

During life the case was seen by several of my surgical colleagues, who agreed that, in all probability, the primary lesion was a fracture of one or more ribs, but none of them could detect its seat. On the other hand, the rapidity of the onset of the emphysema, its commencement about the head and neck, and the stridulous breathing and aphonia combined to raise a suspicion that the air was escaping somewhere high up in the respiratory tract. Palpation in the neck discovered nothing, and his condition was such that a laryngoscopic examination could not be made.

An examination of the body was made on 21st August by Dr. J. Lindsay Steven, whose report follows:—

"*Summary.*—Perichondritis and necrosis laryngis; surgical emphysema of wide-spread character; passive hyperæmia of the lungs; fatty heart; chronic rheumatic arthritis.

"Well nourished body. The right pupil is somewhat larger than the left, and it is irregular from old couching for cataract. The carpal bones of the right hand and the phalanges are much distorted by chronic rheumatism. Emphysematous crepitation of the skin can be made out practically over the whole front of the body from the temples downwards. Rigor mortis moderately pronounced. Subcutaneous fat abundant. In front of the abdomen, more particularly, the adipose tissue has an open, reticulated character, due to the filling up of the interstitial spaces with air. In some situations, the appearance of the affected fat slightly recalls the character of a honey comb. Over the upper part of the sternum there is a moderate ecchymosis extending from about an inch above the supra-sternal notch to 3 or 4 inches below it, and measuring probably 2 inches in breadth.

"The pericardial fat, as well as that of the mediastinum, is loaded with air, so that it has a swollen sponge-like appearance.

"The lungs are voluminous, and are practically non-adherent. On section, both present very marked engorgement of the lower lobes, the medium-sized vessels being loaded with thick, black blood, and the pulmonary tissue itself having a semi-solid character and a brown colour. On laying open the œsophagus, it is found to present healthy appearances. On exposing the interior of the larynx, a ragged cavity is discovered on the left side immediately below the ventricle. The walls of this cavity are composed of grey necrotic material, and projecting into it is necrosed cartilage from the left side of the thyroid cartilage. On the right side, the mucous membrane in the same situation is somewhat grey in colour, but there is no cavity. Externally, the laryngeal cartilages are exposed and dry in appearance, particularly on the right side. Over the left, beneath the left crico-thyroid muscle, there is a cavity the size of a hazel-nut filled with blood. The necrosis affects simply the thyroid cartilage. The appearances are suggestive of the lesion having been probably set up by some foreign body, which cannot now be found. The condition certainly has none of the characters of epithelioma, tubercle, or syphilis. The trachea elsewhere presents quite healthy appearances.

"The liver, kidneys, pancreas, and supra-renal bodies are all healthy. The external fat of the heart is slightly increased, but otherwise the organ presents nothing unusual."

It is so commonly taught that surgical emphysema, when associated with hæmoptysis, is due to fracture of one or more ribs that, as above stated, all who saw this case believed that

such must be the cause here also. Nothing of the kind, however, could be discovered, but a lesion was found in the larynx, which readily accounted for both the emphysema and the hæmorrhage. This necrosis of the larynx must have been of some duration, but the most minute enquiry failed to discover any history of laryngeal symptoms prior to the accident. The patient believed himself to have been in the best of health, and his friends had observed nothing in his voice or breathing, or otherwise to lead them to suppose that there was anything wrong with him. The exact nature of the lesion was not determined.

The noteworthy points in this case seem to be:—

- (1) The latency of the laryngeal disease.
- (2) The slightness of the accident which precipitated the fracture of the laryngeal cartilage.
- (3) The rarity of such a lesion as a cause of hæmoptysis and surgical emphysema.

ANNUAL REPORT ON CERTIFICATION OF LUNATICS, BARONY PARISH, GLASGOW; TOGETHER WITH SOME REMARKS ON THE ANNUAL REPORT OF THE GENERAL BOARD OF COMMISSIONERS IN LUNACY FOR SCOTLAND.

By JOHN CARSWELL, L.R.C.P.E., &c.,
Lecturer on Mental Diseases, Anderson's College, Glasgow.

THE Thirty-sixth Annual Report of the General Board of Commissioners in Lunacy for Scotland, recently issued, contains the usual statistics relating to lunacy in Scotland, the number and distribution of the insane, and the manner in which they are provided for in establishments and private dwellings. On 1st January, 1894, there were 13,300 persons in Scotland officially recorded as insane, of whom 2,053 were what is called private patients—*i.e.*, patients the cost of whose maintenance is entirely derived from private sources—while there were 11,193 patients maintained wholly or partially from the parochial rates, called pauper patients, and 54 criminal lunatics, maintained by the State. Compared with the same period last year, there is an increase of 21 private patients, and of 204 pauper patients. The increase in the number of private patients in establishments during the last

year is below, and that of the pauper patients above, the average annual increase of the five years 1886-90.

The admissions to asylums during last year were 531 private patients, and 2,513 pauper patients. These figures do not include admissions to asylums of patients transferred from one asylum to another. The distinction between private and pauper patients is of no medical importance, at any rate the questions involved in the subject of the social distribution of mental diseases have not yet been considered, except, perhaps, in relation to general paralysis, and the figures of the lunacy commissioners afford no satisfactory material for forming conclusions on the subject. It is a legal distinction based upon the fact that the care and maintenance of all insane persons not capable of being fully provided for out of their own resources is entrusted to parochial boards. Every person who receives assistance from a parochial board, even in cases where the total outlay incurred by the parish is regularly refunded by the friends of the patient, is classed as a pauper. When it is remembered that practically all insane persons whose private resources cannot provide an annual payment of £40 must go to a district asylum at the instance of the inspector of poor, it will be evident how considerable must be the number of inmates of asylums who, though classed as pauper lunatics, do not belong to the class of the community generally known as paupers. It is apparent, therefore, that the distinction between private and pauper patients in the Commissioners' reports is only of service in so far as it enables us to count the cost of lunacy to the public rates. Indeed, truth to tell, there is little else of much interest in the annual blue books. The Scotch Lunacy Acts work so well, and through a long course of years the commissioners have so adapted their administration to the requirements of the country and the efficiency of the various establishments, both in respect to equipment and officials, that there is now little to record but statistics and approval of the manner in which for the most part the various asylums are now managed.

The discharges from establishments during 1893 were as follows:—Private patients, 224 recovered, 122 unrecovered, and 144 died; pauper patients, 1,185 recovered, 463 unrecovered, and 723 died. The rate of recovery calculated on the admissions is 43 per cent; that refers to the total number of patients admitted and discharged recovered, without distinguishing between private and pauper patients.

The majority of patients who are discharged recovered have been less than one year resident in the asylum; hence, it may

be assumed that the average recoverability of all forms of insanity is about 40 per cent of the occurring cases. The Commissioners' returns do not show the recoveries in respect to the various forms of insanity, and therefore it is impossible to estimate the true relative value of the discharges of recovered patients from the different asylums of the country. It is well enough known that the actual condition of the patient is not the sole ground upon which a medical superintendent makes up his mind to discharge a patient as recovered, and so it happens that an asylum carefully managed, and in which the patients are also skilfully treated, usually shows no better results as regards the number of patients discharged recovered, than some other asylums holding a much inferior position in the estimation of those capable of forming an intelligent opinion regarding the character of the work done.

Efforts have been made in various ways, but chiefly by the system of boarding-out in private dwellings in country districts of the harmless and more or less useful chronic patients of asylums, to reduce the number of patients resident in asylums. The Deputy Commissioners, Drs. Fraser and Lawson, report most favourably upon the system, and record several instances of the value of the system not only in restricting the demand for increased asylum accommodation, but also in improvement in the mental condition of the patients. When this mode of providing for chronic patients was first introduced, it was thought that it would prove to be of very limited value, but as experience has grown, it has been found that by this means 25 per cent of the total number of patients can be suitably provided for.

The total expenditure last year on account of pauper lunatics was £255,021; £11,391 of this expenditure was repaid by relatives and others, and £115,717 was contributed from the local taxation account, which is an imperial grant in aid of local rates. If we deduct the amount paid by relatives and others, we find that the actual charge to the rates and taxes on account of pauper lunacy is £243,630. The general impression left on one's mind by a perusal of the Commissioners' report is that the money is carefully, and, so far as present knowledge enables us to go, wisely spent.

The following report on the cases of supposed insanity, reported to the Inspector of Poor for the Barony Parish during the year ending 14th May, 1894, shows the nature of the cases occurring in a populous city :—

	"Males.	Females.	Total.	Previous 12 Months.
Certified,	96	117	213	199
Uncertified,	92	44	136	151
Total Applications,	188	161	349	350

"During the year 349 applications were made, and the results of the examination of the cases show that 213 were found to be suffering from various forms of insanity, and were certified insane, and removed to the Asylum; while 136 cases were not certified insane, of which 77 were treated in the observation wards at Barnhill Hospital. We include in the number certified certain cases which, before going to the Asylum, were for a short period under treatment in the observation wards. Of such there were 7 cases. The total number of patients, therefore, who were under treatment at Barnhill was 84. The results of treatment of the patients at Barnhill show that 73 were discharged recovered or relieved; 7 were certified insane and removed to Woodilee, and 4 died.

"Tabular statement of the number of applications, the number certified insane, and the proportion certified insane per 100,000 of population for each year since 1890 :—

Year ended 14th May.	Population.	Applications.	Certified insane.	Proportion certified insane per 100,000 of Population.
1890	301,931	308	187	61·9
1891	309,812	334	186	60·3
1892	314,312	345	192	61·0
1893	318,872	350	199	62·4
1894	323,402	349	213	65·9
Annual Average,	313·666	337·2	195·4	62·3

"The above table shows that during the first three years of the period covered by it there was a remarkable annual increase in the number of applications, and also that there was no corresponding increase in the number of certified cases of insanity. The figures for 1893 and 1894 show differently; for, while there was a slight increase in 1893, it was not in excess of what might be caused by the increase of population; and in 1894 there was a slight decrease compared with the previous year, but during those two years there was an increase in the number of cases certified insane. The lesson obviously is that applications on behalf of persons supposed to be insane may increase or decrease without implying any corresponding relation to the amount of certifiable insanity.

So far as the experience of this parish is concerned, it is apparent that the question of the increase or decrease of insanity is simply a question of dealing with the applications. These may increase or diminish, but, in either case, with the facilities at our command for the elimination of unsuitable cases, the amount of certified insanity will probably fluctuate but slightly. In the last annual report I expressed the opinion that probably the maximum limit in proportion to the population in the number of applications had been nearly reached, because, as was pointed out, it was not insanity that was increasing, nor even forms of slight and temporary mental disorder, but it was an alteration in public feeling and opinion regarding the function of public institutions as means of relief from the inconveniences attaching to private and family burdens that was causing the increase, and the limit to that would be reached when all occurring cases came to be reported. I believe we have now reached that point. Of course there are, and always will be, a certain number of unreported cases, but probably that is now a very small class.

"Table showing the number of applications, the numbers certified, and the percentage of the applications certified each year, in respect to males and females:—

Year.	MALES.			FEMALES.		
	No. of Applications	No. Certified.	Per cent Certified.	No. of Applications	No. Certified.	Per cent Certified.
1890,	165	94	57·0	143	93	65·0
1891,	166	90	54·22	168	96	56·4
1892,	184	90	49·0	161	102	62·7
1893,	188	106	56·4	162	93	57·4
1894,	188	96	51·1	161	117	72·6
Total,	891	476	53·42	795	501	63·02

"The foregoing table shows that the larger part of the uncertified cases are males, and it also confirms the conclusions reached from a consideration of the preceding table regarding the amount of certifiable insanity relative to the number of applications. It is somewhat remarkable that, in relation to the applications, the numbers certified should be nearly 10 per cent less for males than females. Probably the different habits and mode of life of the two sexes sufficiently account for the difference shown in the table. The majority of the

uncertified cases are caused by excessive drinking, and in that particular vice I suppose men excel women.

"Table showing number of patients treated in observation wards, number transferred to Asylum, number of deaths, and number discharged recovered or relieved during each year:—

Year ended 14th May.	Treated in O. W., Barnhill.	Certified insane and removed to Asylum.	Died.	Discharged recovered or relieved.
1890	57	4	1	52
1891	93	7	5	81
1892	105	6	6	93
1893	96	9	8	79
1894	84	7	4	73

"The foregoing table shows the results of treatment of the cases treated in the observation wards at Barnhill Hospital. No case is detained there longer than one month, and the majority of the patients do not require to be kept there so long. The care and treatment of the patients is a considerable addition to the other hospital duties of Dr. Core and his assistant, Dr. Nicolson, and it must be gratifying to them to be able to record so satisfactory results.

"The number of cases certified insane during the year was 213, of whom 96 were males and 117 females. It is not pleasant to have to record an increase of certified cases. I am of opinion, however, that the causes which have produced the increase are of an accidental and temporary character. The number of males certified is below the average of the last five years, but the number of females is considerably above the average. The increased number of female patients is found to correspond with an increased prevalence of two causes of insanity among women—viz., child-birth and bodily weakness. The number of puerperal cases was 14, which is 7 above the average of the four preceding years, and the number of female cases due to exhaustion of the physical powers was 12, which is considerably above the average of the four previous years. It is difficult to estimate the social elements which go to form the conditions under which both of those causes are operative. But I think it may safely enough be affirmed that when a sudden and large increase occurs in the number of cases of a particular character it is probable that the cause of the increase will prove to be temporary in its influence.

"No accident or complaint of any kind occurred in connection with the removal of the patients to the Asylum. I desire to acknowledge my indebtedness to Mr. Motion and the staff of Assistant Inspectors for their assistance in visiting and investigating the cases.

TABLE SHOWING CAUSES OF INSANITY IN THE CASES CERTIFIED.

I. INHERENT CAUSES.	Males.	Females.	Total.	Previous Twelve Months.
Relapse from previous attack,	2	2	4	12
Heredity (without known exciting cause), . . .	9	9	18	21
Hereditary neurosis do. do.,	2	1	3	3
Exacerbation of existing insanity (being boarded-out cases returned to Asylum, and such cases as may have been discharged from Asylum unrecovered, and have not since recovered), .	3	2	5	9
Predisposition from previous attacks (without known exciting cause),	10	10	20	14
Mental decay (mental weakness in persons over 60 years of age),	2	4	6	4
Mental failure (mental weakness in persons under 60 years of age, who have had average mental capacity until onset of previous attack), . . .	...	...	...	3
Natural mental weakness (mental weakness in persons who have always been under the average in mental capacity),	1	2	3	2
Congenital defects,	5	2	7	12
	34	32	66	80

II. INCIDENTAL CAUSES.	With Ascertained Predisposition.		Without Known Predisposition.		Total.	Previous Twelve Months.
	Males.	Females.	Males.	Females.		
Mental shock and strain (fear, fright, anxiety, &c.,	2	1	...	1	4	11
Intemperance (forms of acute alcoholism),	1	...	4	2	7	4
Intemperance (chronic alcoholism),	1	...	6	10	17	10
Masturbation, . . . . .	...	...	...	...	...	3
Child-birth (puerperal), . . . . .	...	5	...	9	14	7
Climacteric period, . . . . .	...	1	...	12	13	13
Epilepsy,	1	1	5	3	10	7
General paralysis, . . . . .	...	...	9	1	10	6
Religious excitement,	1	1	...	1	3	2
Bodily weakness, . . . . .	...	4	3	8	15	2
Uterine disease and irregularities, . . . . .	...	1	...	1	2	...
Organic brain disease, . . . . .	...	...	8	4	12	8
Pregnancy, . . . . .	...	...	...	...	...	1
Injury to head, . . . . .	...	...	...	...	...	3
Febrile condition, . . . . .	...	...	...	...	...	2
Lactation, . . . . .	...	...	...	2	2	1
Phthisis, . . . . .	...	...	...	...	...	4
Gastro-intestinal disease, . . . . .	...	...	...	...	...	1
Morphia habit, . . . . .	...	...	1	...	1	...
Anæmia, . . . . .	...	1	...	1	2	...
Lead poisoning, . . . . .	...	...	1	...	1	...
Scarlet fever, . . . . .	...	...	...	1	1	...
Recent illness (inflam ⁿ of bowels), . . . . .	...	...	...	1	1	...
Uncertain, . . . . .	...	...	19	13	32	34
	6	15	56	70	147	119
Inherent causes,	34	32	...	...	66	80
Total,	40	47	56	70	213	199

LITHOTOMY; SUPRA-PUBIC; LARGE CALCULUS.

By GEORGE BUCHANAN, M.A., M.D., LL.D.,
Professor of Clinical Surgery, Glasgow University.

I AM induced to publish the notes of this case because, out of the 110 cases of stone in the bladder I have had, this one beats my own record as to size of the stone.

R. A., aged 49, has had some trouble in passing urine for nearly ten years, but until two years ago did not give himself any concern about it. About that time, on two occasions, he noticed a few drops of blood after micturition. But he did not consult any one about it. Shortly after, he felt pain at the orifice of urethra, and then experienced a desire to make water frequently.

He, however, continued to suffer on without telling his medical attendant, till a few days before he came to the Western Infirmary on 23rd June.

On examination I found a very large hard stone so firmly grasped by the bladder, that it was with difficulty the sound could be made to pass round it. It was obviously far too large and too hard either for perineal lithotomy or lithotritry.

It is surprising now-a-days that we still have occasionally very large calculi to deal with. After the long continued reiteration of warning by masters in this specialty, like Sir Henry Thompson and R. Harrison, and others, and the annual instructions of clinical surgeons, it might be thought that no medical practitioner would recognise even one of the symptoms of stone in a patient without insisting on the case being cleared up by examination with the sound, so that the calculus might be discovered, when it could be removed without difficulty or danger. But, unfortunately, not unfrequently, as in this very case, the patient conceals, or at least does not inform his attendant of, the early symptoms, so that the surgeons of the present day, and even of the future, must be prepared to find calculi of large size.

How large a stone can be successfully removed by lithotritry and Bigelow's evacuating catheters depends on so many circumstances connected with the patient, the nature of the calculus, and the expertness of the operator, that no general statement can be made; but, in this instance, a fairly extended experience convinced me that, for the patient and for me, the best operation was the supra-pubic.

A few details of the operation, though not new, are worthy of being noted and practised:—

I did not use a rectum bag, and I will not do so in future. I did not distend the bladder, but I introduced 4 ounces of a weak boracic solution to separate the walls of the bladder from immediate contact with the stone. I fixed to the open end of a large-curved No. 12 prostatic metallic catheter 2 inches of indiarubber tubing, and into it fixed the nozzle of a 6-oz. indiarubber bottle filled with the tepid solution. When the patient was under chloroform I introduced the catheter and injected the contents of the bottle, and retained the fluid in the bladder by tying a string round the tube, and cut it through, distal to the ligature. I then did the cutting part of the operation in the ordinary way, taking care, however, not to make the deep incision through the linea alba for more than an inch above the symphysis pubis at first. I also took the precaution of using, after the incision through the linea, an ivory-bladed knife, as I have seen much trouble from oozing of blood during the subsequent steps.

I now depressed the handle of the catheter, and made its point pass up behind the pubes till it raised a little pouch like a thimble into the lower part of the wound. A simple scratch allowed the point to pass through the vesical wall. With my fingers I stretched and tore a larger opening till three fingers were admitted. I now introduced a very large lithotomy forceps, though I had some difficulty in opening them sufficiently to grasp the stone. When I had got a firm grip, I used a good deal of force, but the forceps slipped off, breaking away a few scales of the outer layer. A second unsuccessful attempt satisfied me that I could not get a sufficiently firm hold to extract with the forceps. I therefore used a lithotomy scoop, placing it at the upper end and my forefinger at the lower end, when, with the assistance of Dr. Renton, who placed a finger on each side, we managed to lever out the stone. I fixed the opening in the bladder to the upper end of the abdominal incision with four strong silk stitches, and closed the wound with silkworm-gut stitches, leaving an aperture into the bladder which would admit a glass drainage-tube, which I fixed in. A small bundle of loose wood-wool was placed over the whole, and this was changed as often as it was wetted.

The progress to recovery was most satisfactory. On 4th September he called to report himself still keeping well, and the wound quite united.

The calculus was uric acid, and weighed $4\frac{1}{2}$ ounces avoirdupois. Measurements—length, $2\frac{7}{8}$ inches; breadth, $1\frac{1}{4}$ inch; thickness, $1\frac{1}{2}$ inch.

THE RELATION BETWEEN CHEMISTRY AND MEDICINE.¹

By T. RHYMER MARSHALL, D.Sc.(EDIN.),
Professor of Chemistry.

To the pure chemist it is a matter of some little difficulty to select an appropriate subject for the opening address of a medical session; but, as my colleagues have placed on me the honour of delivering the inaugural lecture, I shall endeavour to interest you with a subject connected with your life-work, and in which, in some points, I hope I may speak with some authority.

Gentlemen, the object of my address is to show the close relationship between chemistry and medicine, and, at the same time, I shall endeavour to point out the necessity of modifying the present system of teaching chemistry, so as to not only lessen the burden of cram, but also to supply the requisite knowledge essential to the proper understanding of modern methods.

We are at present witnessing the dawn of a new era in therapeutics, when drugs will no longer be administered in the empirical fashion of the past, but will be prescribed with a full knowledge of their profound physiological action. The physician, in these coming days of ripe knowledge, by studying the chemical constitution of complex compounds, will be able to interpret with certainty their physiological action on the human body.

We now know that the symptoms produced by the same drug may differ greatly in different organisms; still the profound physiological action is always the same. Why the symptoms may differ profoundly is easily understood when we remember that the result which a drug produces in a living body is the reaction between the drug itself and the organism—that is, we have to deal, not with one factor but with two; and just as the result may be varied by altering the remedy administered, so it may also be changed by altering the body of the recipient. Realising the truth of this statement, we at once recognise the necessity of ascertaining the susceptibility of a patient to the action of a drug before its systematic administration.

It is not the unusual experience of the physician to find, in

¹ Address delivered at the opening of the winter session of St. Mungo's College, 17th October, 1894.

every day practice, that the action of a drug varies in different individuals, and I may further remark that he observes this peculiarity in even the same persons under different conditions of health. Can it be that the profound physiological action is changed?—by that I mean the chemical reaction between the protoplasm of the body and the drug. If that be the case, since the constitution of the drug remains the same, the structure of the protoplasm must be altered, a condition which is scarcely conceivable.

Living protoplasm is a chemical compound of very great complexity, and of enormous activity plus something, which we call life. Protoplasm has the power of absorbing various substances, disintegrating and building them up into complex compounds. Within its substance a process of oxidation is continually going on. From this combustion the energy with which the protoplasm performs its work is derived. As a result of this chemical action waste products are formed, the character of which varies according to the degree of oxidation and the nature of the materials oxidised. It is doubtless these changes which cause the variations—that is, the physiological action of a drug on the complete organism is modified by the products of metabolism; or inversely, a drug may either accentuate or antagonise the action of the waste products.

As an example of one substance accentuating the physiological action of the other, we have the alkaloids present in *nux vomica*—brucine and strychnine. *Jaborandi*, on the other hand, contains two alkaloids—pilocarpine and jaborine—which in their action almost completely antagonise each other, so that one might possibly obtain a specimen of *jaborandi* having little or no physiological action.

It is the common experience by the bedside that the best time to give a narcotic is in the evening, when sleep would naturally occur itself. Now, it would appear that during the day waste products having a narcotic action are produced, and tend to accumulate in the system to such an extent as finally to induce slumber. A narcotic drug would naturally accentuate the tendency to sleep. During sleep the narcotic substances are eliminated, and stimulating waste products accumulate gradually, antagonising the morphine-like substances, and they finally so stimulate that the person awakes. That every active chemical substance has its antagonist in the physiological sense may now be looked upon as a good working theory, and a rich field of investigation lies ready to be opened out in this important department of chemistry. The experi-

mental method is simple, but, naturally, precautions must be taken when investigations are carried out, as in most cases, only on the lower animals. There are many able physicians who state that the results obtained from such experiments are inapplicable to the human subject; but the research of years rather points out that the profound physiological action is very similar on the protoplasm of all organisms—that is, the protoplasm of living animals is constructed on the same scheme.

Frequently experimentors come across strange anomalies, which no doubt leads to scepticism regarding the value of pharmacological investigations on the lower animals, but it may be said with surety that in many contradictory cases the cause is due to some active product of metabolism. The following account of an experiment will explain exactly what I mean :—

The lethal dose of curare is about eighty times greater for the salamander than the frog. If curare be mixed with salamander blood in the proper proportions, then there will be no symptoms of a physiological action produced after injection into the circulatory system of the frog. This experiment clearly points to the presence in the blood of the salamander of an alkaloidal substance—yet a normal constituent—which completely antagonises the action of the curare.

We have an example of an inverse action to physiological antagonism in cases of death by chloroform, where the cause is neither attributable to nervous shock or to an asphyxial condition from excessive administration. It has been found that where, by imperfect action of the liver or some other cause, alkaloids were abundant in the system, the administration of chloroform was attended by certain risk; whereas, if scanty, there was found to be perfect safety in anæsthesia. One may justly infer that the combined paralysing action of the chloroform and the animal alkaloids is the true cause of failure of the heart's action. It is now easy to understand from this supposition why death should take place in persons to whom the anæsthetic had been administered with perfect safety on previous occasions. The quantity of alkaloids present in the urine is a measure of the quantity in the system, and as there are now methods of determining the amount with considerable rapidity and approximate accuracy, there is no reason why we should not follow the example of many eminent physicians and surgeons on the Continent and elsewhere, who examine the urine before the administration of chloroform.

In order to understand the causes of changes in the character of the waste products both in health and disease, we must study the pharmacology of the cell; but, as yet, very little is known in this new department.

The great problem which lies before us is the determination of the constitution of protoplasm, and this can only be arrived at through the study of the action of drugs upon the living cell. The cell is so complex in structure, however, and the chemical changes so various, that it will require many years of careful investigation before the problem is solved. Again, living protoplasm is a chemical compound of such unstable equilibrium, that when the cell dies a complete change immediately occurs in the constitution owing probably to self oxidation and reduction. One may liken living protoplasm to an enormous and complex structure, the stability of which depends upon the keystone, which, when removed, results in the chaos and ruin of the system.

What is and where lies this keystone to the protoplasmic structure? It has been found that in every cell, both in animals and plants, there is an infinitely small point about which the protoplasm circulates. This point, called the attraction particle, is now believed to be the centre which controls all the various processes in the cell, and would seem to be the citadel of life. But what is life? It is to us as yet an unsolved problem.

It is impossible for me, in the time at my disposal, to give even a mere sketch of what is known up to the present time in regard to the complex chemical processes which take place in the cell during the elaboration of the nutriment, but it will be of advantage to point out that the primary source of energy is the oxidation within the protoplasmic substance, from oxygen constantly introduced from without inwards. The protoplasm which is constantly circulating in the cell acts as the oxygen carrier, and possesses the power of taking oxygen from the air, from water containing it in solution, from substances like hæmoglobin, with which it is loosely combined, and even from firmly combined oxygen, as witnessed by the reduction of calcium sulphate by putrefactive germs. This property of taking up oxygen seems to be due to the presence of a basylous group, and the oxidised residue acts as a powerful oxidising agent, resolving substances absorbed into the protoplasm, partly or wholly into acid products, which probably form what may be called a salt, with the now reduced side group. Before the activity of the group can be restored, these acid waste products must be removed, which

is readily accomplished by the sodium carbonate contained in the lymph surrounding the cell. This theory may contain part of the truth concerning the chemical process of the oxidation in the cell, and the elimination of the acid products.

Professor Engleman, during one of his criticisms at one of the meetings of the British Associations at Oxford, cautioned his audience against accepting theories in physiological science, but qualified his statement by saying that any hypothesis was better than none at all. In science it is legitimate to assume a proposition to explain a phenomenon, and if it contains part of the truth it will bear fruit. It may then be called a working hypothesis, and the sooner this hypothesis dies, killed by its own offspring, the better the hypothesis is and the more likely to be replaced by a law.

At the present moment, in regard to the chemical processes in the cell, there is a division in the camp of the specialists. The supporters of the mechanical theory advocate that the chemical changes which take place within the protoplasmic mass are precisely similar to the chemical reactions occurring in the laboratory, depending solely upon the chemical forces and properties of the atoms. Those who assume the vitalistic hypothesis, however, maintain that there is a higher power—the principle called life, something beyond chemical affinity, which rules the chemical forces, and orders them according to its will, so that there are chemical reactions which take place within the cell, which can never be imitated with inanimate apparatus. However, both agree that the wonderful processes of absorption and storing up food material cannot yet be explained by either chemical or physical laws.

A few minutes ago I referred to periodic changes in the metabolism producing, as Dr. Lauder Brunton so tersely puts it, a self-regulating mechanism, by which sleeping and waking are made to alternate.

The chemistry of sleeping and waking may be explained simply by a theory of change in degree of oxidation in the cell. You are all aware of the stimulating properties of tea, coffee, and cocoa. This is due to the presence of certain active substances which are closely related in structure—in fact, are almost chemically identical to certain stimulating waste products. Now, the active principle of tea can be changed from a cerebral stimulant into a soporific by the introduction of a small oxidised group. A similar change occurs in the protoplasm, and during the period of sleeping stimulants are formed by retarded oxidation, and in waking these are changed into soporifics by active oxidation.

Let us now consider the method of the disposal of cell refuse. In the case of single-celled forms of life we have many examples of self-destruction brought about by the accumulation of the products of their own digestion in the fluid in which they live; but the complex organism continually struggles against the poison excreted from each cell by processes of elimination, neutralisation, and destruction. The process of elimination is a simple one, as many products, after leaving the cells, circulate in the blood, and are ejected from the body unaltered by the kidneys, the liver, the lungs, or the skin. Probably the most important of these waste materials, from the hygienic point of view, is the volatile ammonia derivatives exhaled by the skin and lungs. These ammonia-like substances are exceedingly poisonous, and are an important cause of anæmic conditions of people living in confined spaces.

For the purpose of the chemist, the blood may be defined as an alkaline solution, holding in suspension an innumerable number of living cells. The alkalinity is due to the presence of sodium carbonate, which is the substance concerned in neutralising the acid tissue waste. One of the final products of metabolism is carbonic acid gas, and, as this possesses a soporific and anæsthetic action, and is present in large quantity in the system, it is necessary to withdraw it immediately from the sphere of action. This is accomplished by the sodium carbonate, and, when the blood reaches the lungs, the carbonic acid gas passes into the air-spaces. The liver, on the other hand, is considered to be the important organ in combating poisons—not only the nitrogenous compounds found by tissue waste, but also those absorbed from the alimentary tract. Some are excreted unchanged by the bile, and, although this fluid plays an important part in the digestive process, still it is nothing but the refuse of the body. Others are dissociated and oxidised, so that the nitrogen is eliminated chiefly in the form of urea, which is paramount to saying that these poisons are actually food to the liver and a source of energy. Poisons are also combated by a curious substance found in the liver, called glycogen, which, by combining to form a compound, neutralises these toxic effects. The frequent cause of functional complaints is due to self-poisoning, and the every-day treatment for combating the disorders is thoroughly scientific in its method. The liver is stimulated to increase the flow of bile, and therefore to remove waste products. The intestinal tract is emptied of its contents in order to prevent the absorption

of ptomaines. A milk diet is prescribed, as it quickly supplies the system with glycogen, which is one of the great neutralising agents for poisons.

Beef-tea and meat extracts should be avoided in such cases, as they increase the poisons in the system.

I mentioned at the beginning of my address that one of my objects was to show the necessity of modifying the present system of teaching chemistry to meet the requirements of the medical student. It is not difficult to determine the reason of our conservatism in this direction, as not only is the study of chemistry neglected by most of our physicians, but the teachers of this important subject are seldom students of modern therapeutics, and those who are, are tied down to a syllabus for the purpose of examination.

It will be of interest to quote from a letter which I received from an eminent Glasgow physician:—"I wish that some of you" (referring to teachers of chemistry) "would devise a method of putting just a little real and efficient knowledge of practical and organic chemistry into our undergraduates, without puzzling them with such frightful accumulations of formulæ and details. The man who would convert chemistry for medical students from a cram into something like a science and a useful art, would be a treasure in all our schools of learning." The sound commonsense of this statement is clearly obvious to those of us who have experienced the strain of committing to memory lists of minerals and the manufacture of innumerable products from the raw materials.

What is requisite is a knowledge of the modern theories of chemistry, the modes of chemical change, and, in fact, an elementary course on the principles of the science, so that the student may understand accounts of the chemical processes which he daily meets with in his study of physiology and therapeutics. It is my opinion that a sufficient amount of inorganic chemistry could be placed before the student in fifty lectures. Then much more time could be devoted to the really important subject of organic chemistry. I say, advisedly, "really important subject," because, in the laboratory of the body, it is mainly compounds of carbon which are dealt with. Alas! in too many instances, just as in inorganic chemistry, much valuable time is taken up with manufacturing processes, such as the destructive distillation of coal and wood, and the working up of the liquid products into pure chemicals. Rather let the student learn that, by simple synthetical methods, complex substances may be built up in steps from such a simple compound as marsh gas. He should also be

shown how the seeming chaos of compounds may be arranged and classified into groups having general characteristics.

Gentlemen, it is to those of you who are about to commence the study of chemistry that I appeal. If I have shown and proved the necessity of acquiring a sound knowledge of chemistry, so as to equip yourself with a most potent weapon in combating disease, then I shall be indeed grateful, as I may justly say I have accomplished something this day.

A CASE OF MYCOSIS TONSILLARIS BENIGNA.¹

By WALKER DOWNIE, M.B.,

Dispensary Surgeon for Diseases of the Throat and Nose,
Western Infirmary; &c.

THE case which I venture to bring before the Society to-night is one in which there are numerous white rounded excrescences in connection with the surface of the right tonsil. Many of the white tubercles, especially those over the upper and anterior portions of the tonsil, are isolated, but over the most prominent part of the tonsil, midway between the anterior and posterior pillars, several of them have coalesced to form a strip somewhat resembling a portion of the pseudo-membrane of diphtheria, with which it is very apt to be, and often is, confused.

The disease, if it may be termed such, as in the majority of cases there is no apparent disturbance of the patient's comfort, was designated by Fränkel *Mycosis tonsillaris benigna*, and by Hering *Pharyngo-mycosis leptothricia*. The patches are most frequently met with in connection with the tonsils, as in this case, though occasionally they occur on the faucial pillars, on the pharyngeal wall, or in the neighbourhood of the circumvallate papillæ on the tongue.

This patient, who is an engineer, aged 53, and in the enjoyment of good health, has been cognisant of the presence of those spots for at least eighteen weeks, yet has had no symptom referable to the tonsil, though after speaking for a time, and while reading aloud, he is of opinion that his throat generally, becomes dry more readily than formerly.

When a patient with this condition is seen for the first time, the diagnosis then made is usually a wrong one. It is

¹ Read at a meeting of the Glasgow Medico-Chirurgical Society held on 24th October, 1894.

almost invariably either considered to be a follicular tonsillitis, or it is mistaken for the local manifestation of diphtheria. Against these, however, there is, in this affection, entire absence of inflammation of the fauces or pharynx; the lymphatic glands are unaffected; there is no rise in temperature; and there is no pain on swallowing. The deposit here is of a firm fibrous character, and is firmly incorporated with the mucous membrane on which it appears, and from which there is difficulty in removing it. In this respect this new formation stands out in marked contrast to the soft pultaceous character of the collected secretion in follicular tonsillitis.

As time goes on, the obstinate character of the condition becomes its leading feature, and the thought of follicular tonsillitis and the fear of diphtheria are put aside without hesitation. If a portion of the white new-growth be removed, it will be found to consist, for the most part, of the filaments and bacilli of *leptothrix*. (A specimen of the fungus removed from this case was shown under one of the microscopes.)

In its treatment, active measures are necessary. Ordinary antiseptic applications are of no avail; and though some authorities recommend that where the patient experiences no physical discomfort from its presence, and as it is due to a perfectly harmless parasite, it should be left alone, I recommend its removal. It is an abnormality, and its presence is apt to worry the patient. Its removal can be very effectively accomplished by the electric cautery, care being taken to destroy every spot present. Smoking, which is usually proscribed in affections of the throat, may here be recommended, as the use of tobacco in this form seems to act as a deterrent.

CURRENT TOPICS.

THE NEW CHAIR OF PATHOLOGY—OPENING OF THE MEDICAL SCHOOLS.—The winter session of the Medical Faculty of the University was opened on Monday, the 22nd October last, by Professor Joseph Coats, who delivered his inaugural address, entitled "Fundamental Conceptions of the Characteristics and Embodiments of Life, with reference to Pathology." What lent special interest and importance to the occasion was that the address, in addition to serving as the customary opening oration, was also the speaker's inaugural address as Professor

of Pathology in the University. All who are interested in the welfare of medical education will rejoice that Glasgow has now been placed on a level with the other Scottish universities, and that she now has a regularly endowed Chair of Pathology. The constitution of the Chair is liberal and extensive, and, by being in the patronage of a Conjoint Board of members of the University and of the managers of the Western Infirmary, it has been secured that there will always be abundance of material for teaching purposes. The Professor will always be the Pathologist to the Western Infirmary, the head, that is of the pathological department, both in the University and in the Hospital. We think that this is an excellent arrangement, and one that will be for the best interests of the teaching of pathology in Glasgow. There was a large audience of professors and students to hear Professor Coats. The women students of Queen Margaret College occupied seats under one of the side galleries.

The winter session of St. Mungo's College was opened on the 17th October, by an address from Professor Marshall, which will be found at p. 355. He chose for his subject "The Relation between Chemistry and Medicine;" and there was a very good attendance on the opening day.

Anderson's College Medical School had no formal opening address this winter.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—The following gentlemen have been elected office-bearers for the ensuing session:—Hon. President, Dr. Robert Barnes; President, Dr. G. A. Turner; Senior Vice-President, Dr. Robert Kirk; Junior Vice-President, Dr. Malcolm Black; Secretary, Dr. J. Nigel Stark; Treasurer, Dr. A. Miller; Reporting Secretary, Dr. Robert Jardine; Pathologist, Dr. John Lindsay; Council, Drs. D. N. Knox, A. Richmond, William Cullen, J. K. Kelly, A. R. Gunn, and T. W. Jenkins.

GLASGOW SOUTHERN MEDICAL SOCIETY.—At a meeting of this Society the following gentlemen were elected office-bearers for session 1894-95:—President, Dr. John Brown; Vice-President, Dr. Alexander Rankin; Treasurer, Dr. J. C. Edmiston; Secretary, Dr. T. W. Jenkins; Editorial Secretary, Dr. W. M'Millan; Sealkeeper, Dr. A. S. Tindal; Governor of Victoria Infirmary, Dr. E. M'Millan; Court Medical, Drs. Fenwick, Lapraik, Lindsay Steven, Napier, and J. K. Kelly (Convener). The following gentlemen complete the Council:—Drs. Robert Forrest, C. E. Robertson, and Gordon Wilson.

The Society held its annual dinner on the evening of Thursday, 18th October last, in the North British Station Hotel. The President, Dr. John Brown, occupied the chair, and a very enjoyable evening was spent.

GLASGOW EASTERN MEDICAL SOCIETY.—The opening meeting of this Society for the winter session was held in Blackfriars Church Hall, on the evening of Wednesday, the 10th October. The annual election of office-bearers resulted in the reappointment of Drs. George Mather and William Patrick as President and Vice-President respectively. Drs. Thomas M'Murray, James Craig, and David Couper were also re-elected to the posts they occupied during the past session—namely, Treasurer, Secretary, and Editorial Secretary; and the Council was completed by the election of the following gentlemen:—Drs. John Wilson, Carr, Barras, Mathie, Findlay, and M'Gregor. Thereafter there was some discussion as to a suitable place of meeting, and a small Committee was appointed with full powers to make arrangements. It was also agreed that the Society should have a dinner. Several new members were admitted and others were proposed.

UNIVERSITY OF GLASGOW.—The following have passed the *first* professional examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.), under the New Regulations, in the subjects indicated (B., Botany; Z., Zoology; P., Physics; C., Chemistry):—

John Aitken (z., c.), Arthur James Ballantyne (z., c.), Robert Fisher Ballantyne (B., P.), Andrew Aitken Barclay (P., c.), James Barrowman (B., P.), James Napier Baxter (z., c.), William Bennett (P.), James Symond Beveridge (P., c.), William Broad (P.), John James Buchan (P., c.), James Robert Chalmers (B., P.), Andrew Clark (z.), David Maclure Cowan (B., P.), John Craig (B., P.), William Crerar (z., c.), John Ronald Currie, M.A. (B., z., P., c.), William Dick (z., c.), Robert Douglas, M.A. (z., c.), Kenneth M'Kenzie Duncan (B., z., P., c.), Binnie Dunlop (P. c.), John Ballantyne Dykes (B., P.), Hugh Campbell Ferguson (B., P.), James Fulton Findlay (z., c.), Robert Fullarton, M.A. (B., z., P., c.), Alexander Garrow (B., P.), David Sloan Harvey (B., z., P., c.), Harold Smith Heap (z., c.), John Henderson (B., z., P.), Isaac Mackay Huey (B.), Nicol Jamieson (B., c.), Edward William Reese Jones (B., z., P., c.), Pierce Jones (B., z., P., c.), William Wallace Keir (B., z., P., c.), Andrew Kerr (B.), Andrew Stewart Lang (B., z., P., c.), Alexander Lawrie (B., z.), John Wilson Leitch, M.A. (B., z., P., c.), Alexander Matheson (B., z., P., c.), James Blakely Miller (B., z., P., c.), James

Alexander Mitchell (z., c.), Percival Ambler Mitchell (B., z., P., c.), James William M'Dougall (P.), Dugald M'Kinlay (B., c.), Alfred Robert MacIurkin (B., P.), Alfred Duncan Macnair (z., c.), Roderick Reid Macnicol, M.A. (P.), William Gardner Neill (z. c.), Robert Niven (B., z., c.), Percival Leslie Pearce (B., P.), John Reid, Glasgow (z., P.), Robert Rennie (P., c.), William Alexander Riddell (z., c.), Daniel Scanlan (B., c.), Joseph Wilkie Scott (z., c.), John Shaw, M.A. (B.), David Ap Simon (P., c.), James Smith (z.), James Johnston Smith (z., P.), William Hart Steel, B.A. (B., z., P., c.), Francis Stevenson (B., z., P., c.), Frederick Ernest Stokes (B., z., P., c.), Thomas Morton Strang (B., z.), Andrew Taylor (z., c.), Robert Taylor (B., P.), Robert Thom (B., P.), Alexander Dey Thompson (B., P.), Thomas Bird Tierney (B., z.), Robert Andrew Hannan Watson (B., z., P., c.), William Webster (z., c.), Edward Roberts Weir (P.), Alexander Simpson Wells (B., P.), Joseph White (B., P.), Robert George (B., P.), James Patterson Wilson (z., c.), Robert Wylie (B., c.)

Women Candidates.—Daisy Annabelle Bennett (B., c.), Sarah Davidson (B., z.), Jessie Downie Granger (B., z.), Jane Lorimer (P.), Eva M'Call (B., z.), Minna Amelia Macfarlane (P., c.), Annie Louise M'Iloy (z., P.), Margaret Wallace Howie M'Neil (B., z.), Mabel Catharine Poulter (B., z.), Catherine Love Smith (B., P.) Sara Whiteford (B., P.), Grace Lorrain Young (B., z.)

The following have passed the *first* professional examination (Old Regulations) for the degrees of Bachelor of Medicine (M.B.) and Master in Surgery (C.M.):—

James Andrew, William Duncan, John James Edgar, Richard Hewson Hunter, Thomas Grieve Milligan, William M'Mullen Pearson, William Ure.

Women Candidates.—May M'Mullen Pearson.

The following have passed the *second* professional examination (Old Regulations) for the degrees of Bachelor of Medicine (M.B.) and Master in Surgery (C.M.):—

James Francis Agnew, James Mitchell Bonar, William Brown, Charles Cairnie, M.A.; Hugh Calderwood, John Lindley Carstairs, M.A.; Alfred Charlton, Thomas Cochrane, John Crawford, John Arthur Clarke Doonan, Thomas M'Gibbin Fletcher, James Graham, James Donald Holmes, John Lunn, John Hepburn Lyell, William Martin, M.A.; Samuel Martyn, Archibald Mason, William M'Gilchrist Montgomery, Andrew Brown Murray, Thomas Duncan Newbigging, John James Robertson, James Craik Taylor, John Taylor, James Vair, James Weir, Andrew Colville Wilson.

Women Candidates.—Annie Kirby Anderson, Roberta H. M. Stewart.

Miss Lucy Buckley, B.Sc., has passed the *second* professional examination (New Regulations) for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subjects of anatomy and physiology.

The following have passed the *third* professional examination for the degrees of Bachelor of Medicine (M.B.) and Master in Surgery (C.M.):—

A (INCLUDING PATHOLOGY).—James Adam, William Alexander, William Allan, John Anderson, John Lindsay Anderson, Robert Brownlee Barr, Thomas Bell, Thomas Black, Henry Broom, Robert Buchanan, M.A., B.Sc.; Samuel Capie, William Clow, M.A., B.Sc.; Frederick Burdett Cornick, Samuel Donaldson Cowan, M.A.; John Hannay Douglas, Joshua Ferguson, M.A.; James Forster, James Reid Foulds, Andrew Fleming Galloway, Thomas Cleator Garrett, John Gillan, M.A.; John Gordon, James Drummond Graham, John Alexander Graham, Joseph Green, James Henry, George Hodge, Arthur Holt, Gavin Dalzell Hunter, Frederick James Jayne, David Kerr, David Connor Kirkhope, William Lawson, Robert King Miller, John Miller Woodburn Morison, Adam Cubie Muir, James Andrew Dixon Mulholland, Donald Munro, Edward Mackay, Lewis MacLachlan, William Macleod, George M'Pherson, Wallace Ainsworth Pride, Samuel Prior, John Broadfoot Rae, John Neil Robertson, William Scobie, B.D.; Alexander Scott, James Smith, Thomas Orr Speirs, James Sproull, Alexander Stevenson, Alexander Stewart, Alexander Hamilton Stewart, James Stewart, James Edmund Fergusson Stewart, James Stirling, Joseph Milton Thornley, Charles Kirk Toland, Anthony Vost, Ernest Alexander Walker, M.A.; Herbert Kidson Wallace, B.Sc.; Henry Allan Watson, M.A.; Frederick Wolverson, Albert Samuel Worton, Herbert Yearnshaw, Archibald Young, B.Sc.; John Young, (Glasgow).

Women Candidates.—Ursula Chaplin, Edith Ellen Goodrich, Emmeline Marie Stewart.

B (NOT INCLUDING PATHOLOGY).—Francis James Barker, M.A.; Thomas Baxter, George Arbuckle Brown, James Souter Christie, Peter Skinner Clark, Robert Mackechnie Fraser, M.A.; Robert Howieson Gemmell, Walter Graham, George Jubb, James Kirkland, James William Otto Van Millingen, Frank Mort, James M'Clure, James Campbell M'Clure, Angus M'Pherson M'Intosh, William Jones Mackinnon, Samuel M'Lean, Robert M'Naught, William John Orr, Edward James Primrose, M.A.; John Rankin, Harry Muir Watson.

NOTICE OF REMOVAL.—We learn that the Apollinaris Company, Limited, change their address, on and after the 1st November, 1894, to 4 Stratford Place, Oxford Street, London, W.

REVIEWS.

Medical History from the Earliest Times: a Popular History of the Healing Art. By EDWARD THEODORE WITHINGTON, M.A., M.B. Oxon. With two Illustrations. London: The Scientific Press, Limited. 1894.

ANY one who has made even a transient study of the history of medicine, will easily appreciate the difficulties which lie in the way of an author who sets himself to write a history of the healing art from the earliest times. The history of medicine differs in some important respects from that of other departments of human culture and intellectual effort. A more or less definite continuity has always pervaded it from the very earliest periods, a continuity which we scarcely see in the history of almost any other department of human life. This continuity has been unaffected by the limitations of nation or of race, for nation has co-operated with nation in fighting against disease, and the continuity of medical tradition has survived the changes of religious belief and the downfall of dynasties. But while this unity of medical history may be admitted, it is not to be forgotten that the practice and theory of the art has varied tremendously. Schools, dogmas, and modes of practice without number have lived and died during the ages of medical history, and it is the attempt to arrange, in a natural and chronological sequence, the different aspects of theory and practice which have from time to time prevailed, that constitutes the chief difficulty in the way of the medical historian.

In the space at his command, the author of this book has succeeded well in giving an interesting and connected account of the different stages in the history of medicine. The amount of labour and research involved in the compilation of the work must have been very considerable, and the author displays great power in tracing the links that connect one period with another in the evolution of medical science. Beginning with interesting accounts of what is known about prehistoric medicine, and the medicine of ancient Egypt and India, he presents us with a most readable history of the development of our art. The book does not pretend to the elaborate biographical detail and the profound research which characterise the writings of medical historians, such as Sprengell, Le Clerc, Halser, Daremberg, and others; but, having carefully perused its pages, the student will have acquired a general

knowledge of the main epochs of medical history, which cannot fail to be of the greatest service to him should he desire to pursue his studies further.

In our opinion, the book is one of the best attempts that has yet been made in the English language to present the reader with a concise epitome of the history of medicine, and as such we very cordially commend it.

On the Blood-Serum Treatment of Diphtheria: a Lecture given to Military Surgeons on the 11th October, 1894, in the Institute for Infectious Diseases in Berlin. By DR. H. KOSSEL, Assistant at the Institute. (From the Deutsche Medicinische Wochenschrift, 24th October, 1894, No. 43.)

As the subject of serum therapeutics is being brought prominently before the public from both Paris and Berlin at the present time, we think it well to give a short account of this interesting lecture.

Dr. Kossel gave this lecture at the request of Geheimrath Robert Koch. He first gave a short account of the method of obtaining the serum recommended by Behring and Ehrlich.

If one injects a small quantity of the blood of an animal which has been rendered insusceptible to the poison of tetanus or diphtheria into another animal, the latter will for a certain time be rendered insusceptible to inoculation with the bacillus of that disease. The diphtheria bacillus is one of those bacteria which in the most pronounced manner give rise to poisonous products, which have a pathogenic action. If one wish to render an animal insusceptible to the action of diphtheria bacilli, he must, in the first place, make it insusceptible to the diphtheria poison. He can do this by injecting the poison in gradually increasing doses, which are each time sufficient to make the animal ill, but not to kill it. As the insusceptibility of the animal to the poison rises, so does the power of the blood-serum to confer on other animals immunity from the disease.

In order to render animals immune to diphtheria, one injects at first very small and then gradually increasing doses of the diphtheria poison under the skin. The poison is obtained, according to Roux and Yersin, by introducing cultivations of diphtheria bacilli into large flasks containing nutrient bouillon, and after about four weeks killing the bacilli by the addition of 0.5 per cent carbolic acid, or 0.3 per cent trikresol. The dead bacilli then fall to the bottom of the bouillon, and the clear

fluid contains the poison in solution. On injecting a small quantity of this poison into an animal it reacts with fever, cedematous swelling at the point of injection, and, what is most important, with the production of the specific anti-toxine. After each such reaction this substance appears in the blood, and as the doses of poison increase in number and strength, the quantity of anti-toxine present in the blood is also increased. The treatment of the animal with the poison is continued till the blood contains a sufficient quantity of anti-toxine. This is controlled from time to time in the following way:—A small quantity of blood is drawn from the animal and mixed in a test-tube with the poison, and this mixture is injected into guinea-pigs, a poison whose power to kill guinea-pigs is already known, is taken in ten times the minimal fatal dose; for example, 1 cubic centimetre is mixed with 0·3, 0·25, 0·2, 0·15, 0·1 ccm. of the blood to be tested, and these five mixtures are injected into five guinea-pigs; then, perhaps the first, which has received 0·3 ccm. blood with 1·0 ccm. of the poison, will remain without any sign of disease, the second (0·25 ccm. blood + 1·0 ccm. poison), have an infiltration about the size of a pea at the point of injection, the third a much larger infiltration which sloughs, the fourth perhaps dies in fourteen days, the fifth dies of acute diphtheria-intoxication. Then we know that 0·3 ccm. of the blood examined is necessary to paralyse ten times the minimal fatal dose.

Behring and Ehrlich, for simplicity, give the name normal serum to a serum of which 0·1 ccm. is sufficient to render harmless 10 times the fatal dose, and they say 1 ccm. of normal serum contains 1 unit of power to produce immunity. A serum of which 0·01 ccm. is sufficient to neutralise the fatal dose is called a 10 times normal serum, or is said to have 10 units of power to produce immunity.

According to the experiments of Ehrlich and Kossel, it is necessary, in order to cure diphtheria in children, to inject at least 500 units of power—that is, 10 ccm. of a 50 times normal serum or 5 ccm. of a 100 times normal serum. When the blood of an animal is found by experiment to have this strength, a large quantity is drawn into sterilised vessels and allowed to coagulate at a low temperature, the clear serum is drawn off, and half per cent carbolic acid added to it to preserve it; the material is then ready for use. It is best to use large animals, such as horses, for the purpose, as more blood can be obtained from them.

Dr. Kossel recommends that even the most hopeless cases should be treated with the serum, as it can do no possible harm and may do some good. Accordingly, all the cases

of diphtheria admitted for the last two years have been so treated, and the mortality *over all* has fallen to 16 per cent, while, of children admitted in the first and second days of the disease, not one has died. Dr. Kossel is convinced that it is possible to cure every fresh case of true diphtheria by the use of a sufficient quantity of anti-toxine. Similar good results have been obtained in the Kaiser and Kaiserin Friedrich Hospital, and by Roux in Paris.

The treatment gives rise to no hurtful symptoms, it does not raise the temperature, and does not injure heart or kidneys. Albuminuria has never been observed by Kossel as a result of the injections. Sometimes there is a little pain on the following day at the point of injection, and sometimes a quite harmless urticaria occurs.

At first, after using the injection, the local disease in the throat may for a short time seem to extend, but this is only over parts that have been already infected before the injection; in twenty-four hours the process is seen to be stopped, the temperature and pulse rapidly fall, and this reduction of the fever usually continues, unless there be some complication, as ear disease or abscess formation. In scarlatinal diphtheria and other diphtheria-like diseases, without the presence of the bacillus such a fall in temperature and pulse is not observed.

The serum can be obtained from the Farbwerke vorm. Meister Lucius & Brunig, Höchst. a. M., and is supplied in bottles, in three strengths, the entire quantity in the bottle to be injected at one time. No. 1 contains 600 units of immunisation, and is sufficient for fresh cases in the first and second days of the disease; No. 2 contains about 1,000 units, and is to be used in cases older than two days, or where the disease is specially severe, or involves the larynx; No. 3 contains 1,500 to 1,600 units, and should be used for adults or for children in severe prolonged cases. In fresh cases no accompanying treatment is necessary, but to see that the cavity of the mouth is kept clean. Painting the throat is quite unnecessary.

To protect children in an infected family who have not been infected, it is only necessary to inject one-fourth of No. 1. Dr. Kossel considers that the protection will not last more than two or three weeks.

Post-diphtheritic paralysis need not be feared in cases that have come under the treatment early, but in older cases it may occur.

Dr. Kossel injects, with a Koch's 10 ccm. syringe, into the side of the thorax below the axilla. In children with difficulty of breathing he injects into the upper arm.

The lecture is a very interesting one, and gives a fair idea of the process and of the theory which underlies it; but we think the author glides over the dangers of the process and the difficulties in the theory too lightly.

Micro-Organisms in Water. By PERCY FRANKLAND, Ph.D., B.Sc. Lond., F.R.S., and MRS. PERCY FRANKLAND. London: Longmans, Green & Co. 1894.

THE subject considered in the book before us has become of the very greatest importance on account of the evidence which has been accumulating in favour of the view that some infectious diseases are often disseminated by impure water distributed in the places where such epidemics occur—as, for instance, in the cholera epidemic in Hamburg two years ago, in which case it was shown that the presence of certain micro-organisms had a close relation to the amount of disease in certain districts, and their absence from the water supply to the immunity enjoyed by other districts.

We would, at the same time, point out that though bacteria may cause some diseases which are spread by impure water, it is hardly likely that all such diseases are caused in that way; and, therefore, due attention should still be paid to the chemical examination of water supplies, as there is danger that in the hunt after pathogenic bacteria, other larger and equally important matters may be overlooked.

This book is well got up and arranged, and very fairly illustrated with woodcuts and a few plates. It starts with a good description of the methods of bacteriological research in reference to water, and of the apparatus required in such investigations. Then the bacterial contents of various waters are discussed, and in this chapter a series of tables is given, derived from various sources, of the number of bacteria found in the water of rivers, lakes, and the sea, but without referring to whether the bacteria are pathogenic or not.

We should like here to call attention to the difference which may be observed in any pond, in the vegetable and animal life in various parts, according to the supply of sunlight and also to other and perhaps very slight local differences. For instance, the other day, in a pond near Glasgow, we noticed, on examining the water with a lens, that at one place there were numerous specimens of *volvox globator*, and but few *daphniæ* present, while in another part, only a few yards off, there were great numbers of *daphniæ* and no *volvocinæ* to be found.

From such facts, and from the extreme variations in the number of bacteria found in water from the same place at various times, as evidenced by our author's tables, the greatest care should be taken in coming to any conclusion as to the bacterial nature of the water supply. It is well also to remember that negative evidence in such matters is not nearly so reliable as positive.

The methods of purifying water for drinking purposes are then discussed, by sand filtration, sedimentation, &c. We have then chapters on the Multiplication of Micro-Organisms, the Detection of Pathogenic Bacteria in Water, the Pathogenic Bacteria present in different Waters, and the Action of Light on Micro-Organisms.

In an appendix of more than 100 pages, our authors give a list of the micro-organisms found in water, with their diagnostic peculiarities, which may prove very useful to those making special investigations.

Lunatic Asylums: their Organisation and Management.
By CHARLES MERCIER, M.B. London: Charles Griffin & Co.
1894.

THE fact that the department of medicine concerned with the insane is so specialised, limits the circulation of such a work as this. At the same time, its appearance must show to the body of the profession that what is probably the most scientific branch of medicine is attracting more attention from those engaged in asylum work.

The greater part of the book is occupied by details of administration, and in respect of these much difference may exist. We think that there is much that is trivial, and give as examples the pages devoted to directions for re-binding books and for marking lawn tennis grounds. The custom of male and female patients dining at the same tables was, we may tell the author, in practice in Scotland long ere its introduction into England.

Probably the book will be of most value to assistant medical officers in asylums. Dr. Mercier has already done much for them, and in this work he certainly points to a high ideal of asylum management. By medical superintendents the book will not be so much thought of. Differing as we do from the author on many points, we yet willingly acknowledge that he has produced a book that will give a needed impetus to the systematic study of asylum patients, and indirectly will promote their welfare.

MEETINGS OF SOCIETIES.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

SESSION 1894-95.

MEETING I.—12TH OCTOBER, 1894.

*The President, DR. HECTOR C. CAMERON, in the Chair.*I.—PATIENT WITH *MYCOSIS TONSILLARIS BENIGNA*.

BY DR. WALKER DOWNIE.

Dr. Downie's paper on the above case appears as an original article at p. 362.

II.—PAPER ON "A RECENT VISIT TO THE CENTRAL INSTITUTE OF GYMNASTICS, STOCKHOLM;" DEMONSTRATION OF THE METHODS OF TREATMENT PRACTISED IN THE INSTITUTE.

BY DR. W. F. SOMERVILLE.

Dr. Somerville's paper will be found as an original article at p. 333. At its close, a demonstration was given by him, with the assistance of a trained gymnast, of a large number of the active and passive movements employed.

Dr. Samuel Sloan said that although one might suppose, after this demonstration, that Dr. Somerville, like all enthusiasts, was leading them to expect more from this method of treatment than could be expected from any form of treatment at all, his experience, when speaking to Dr. Somerville, had been exactly the opposite. His (Dr. Sloan's) patient, who had been mentioned by Dr. Somerville, had certainly improved. On her return home from treatment, her only complaint had been of hunger, and that they would not wonder at after so much exercise. Dr. Sloan would ask if at the beginning of Weir-Mitchell treatment some of these movements might not be advisable. The usual plan was to keep the patient in bed for three weeks or so, and perhaps the reason of the "drifting" seen afterwards was the want of some gymnastic treatment.

Dr. Laing (of Edinburgh) had had much pleasure in seeing Dr. Somerville's demonstration of active and passive movements, and he thought that they must all see that, with such a large field of drugs to choose from, it was possible to modify

this method of treatment to suit any individual case. The most difficult movements could be performed after a month's training, and that of itself said a great deal for the treatment. The present "subject" had, of course, been a gymnast, but they must remember that, given to a delicate patient, massage was very fatiguing, and that a little would suffice. It was often said to patients that they "should get massage," but, with so many forms of application to choose from, that prescription was just as unintelligible as a direction to go to a chemist and "get some medicine." Definite instructions must always be given as to the particular movements required. To get good results one must know what was wrong, and what exact form of treatment would put it right. Good would be got, not from quantity, but from quality. Dr. Laing had himself had some experience in the treatment, and had been surprised at the satisfactory results obtained. In Weir-Mitchell treatment he thought that the patient was the better of the three weeks in bed at the beginning, but that those exercises would do much more good than simple rubbing to prevent relapse.

Referring to the old method of managing cases of spinal curvature due to weakness of the muscles, he thought that the "jacket" might possibly prevent them from getting worse, though it did not always even do that amount of good. On the other hand, exercises would cure the condition, or at least lead to great improvement. In old-standing cases it could not untwist the curvature, but it would always do some good, and prevent matters getting worse. Dr. Somerville had mentioned the increased measurements of the chest after treatment; this increase was often very strikingly shown by the alterations needed on a visit to the dressmaker's. Besides the advantage of the movements in respect to the back, they found improvement in the condition of heart and lungs.

In the treatment of sciatica, too, Dr. Laing had had very satisfactory results, and he could refer in this connection to six bad cases he had recently had under his care.

Then, as to sprains, he did not see why they should tie up the part for three weeks. In Paris, a patient would be walking in seven days after a simple sprain of the ankle; in Scotland, one waited a month, until the joint had become stiff. But why? He did not refer to cases in which there was rupture of the ligaments. In simple sprains, he thought that, if there was swelling, they might begin gentle massage very early, leaving out the most tender parts, and that they could get the patient to walk in seven days, while in three weeks

no difference would be recognised between the injured and uninjured foot.

Dr. Gairdner was encouraged to rise by what had been said by the last speaker, because his remarks had fallen in with what had been passing in his own mind. He had seen a little of the treatment under discussion, and could most heartily concur in approval of it. His view was that this treatment, or any other form of treatment, to be successful, must proceed on lines of sound physiology, and it was just because he thought that *Dr. Somerville* was the man likely to pursue it on those lines that he was so cordially inclined to his paper. The only place where he had seen anything like this systematic employment of gymnastics under medical supervision had been in the New York reformatory prison, to the regulations of which institution he referred in detail.

Dr. Middleton had seen one of the cases quoted by *Dr. Somerville*, and he would have supposed at first that it was not a suitable case for this form of treatment. The patient had been under his care for some time, and he could say that treatment by drugs had been without effect, except in checking the number of motions, and that the child had been getting more and more peevish. After a month of treatment by *Dr. Somerville*, the diarrhoea had not only been recovered from, but any one could see at once that there was great improvement in every way.

Dr. Finlayson, like *Dr. Laing*, had been impressed, since he began practice, with the fact that the treatment of weak backs in young girls by stiff jackets was not an ideal one if cure were aimed at—supposing the deformity to be due to weak muscles. So when he had come to know that *Dr. Somerville* was undertaking treatment by movements, he had sent him some cases. Some of them had been so weak that many would have been afraid to submit them to the strain of exercises. He had conferred with *Dr. Somerville*, and had found him quite alive to the danger of overdoing the treatment. In some of the cases the result had been very favourable. Cases of defective development in young children were also suitable cases for gymnastic treatment, because the proper time to act was before deformity had begun, and by such treatment they might prevent the development of deformity, without waiting to have to try to remove it after it had been produced.

Dr. Hector Cameron conveyed the thanks of the Society to *Dr. Somerville* for the trouble he had taken, and for the physical exertion he had undergone, in giving this demonstration.

Dr. Somerville, in reply, said that the exercises which had been shown, in particular those suitable for girls with weak backs, were not, of course, all given at the first visit. They began with very slight movements, and gradually increased them as the patients grew stronger. The patient must never be sent away tired. The more usual experience was for her to come tired and go away refreshed. If the patient on returning home felt tired, or was unable to take food, he would regard it as a proof that the exercises had been excessive.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.

SESSION 1894-95.

MEETING I.—8TH OCTOBER, 1894.

The President, DR. D. N. KNOX, *in the Chair*.

I.—SPECIMEN OF ANEURYSM OF THE AORTA RUPTURING INTO THE OESOPHAGUS.

BY DR. R. M. BUCHANAN.

A. A., aged 55, seaman and quay labourer, was admitted to the Western Infirmary on 27th September, 1894, under the care of Dr. Dun (to whom and to Dr. J. L. Watson, resident physician, I am indebted for the following clinical notes):—

“The patient was found lying in the street in an insensible condition, and beside him was some bright red blood which he had vomited. On admission no pulse could be felt in the radials or carotids, and the heart sounds were very faint. Auscultation and percussion of the lungs revealed nothing noteworthy, but there was marked dulness over the stomach region. The respirations were 46 per minute, and the temperature registered 99° F. The conjunctival reflex was not present. Dark tarry motions were passed, and also a large quantity of arterial blood. Death took place four hours after admission. (A fuller history of the previous condition of the patient could not be obtained.)”

The aorta presents advanced atheroma in its whole extent. The ascending portion of the arch is considerably dilated, and in the whole length of the transverse portion there is an aneurysmal bulging of the wall antero-inferiorly, giving a diameter of 2 inches to the vessel. The left vagus passes

down over the distal end of the aneurysm, and, with its recurrent branch, is deeply and firmly incorporated in its wall. The recurrent nerve is also much stretched by the downward growth of the aneurysm.

At the junction of the transverse and descending portions of the arch the wall in the concavity is abruptly folded on itself by the bulging, and so forms a dense ridge with some narrowing of the lumen of the vessel. On the other side of this ridge there is another aneurysm involving the descending portion of the arch and the first part of the thoracic aorta. It is in the form of a bulging of the wall posteriorly for a distance of 3 inches, giving to the vessel a diameter of 2 inches. From the right side of this bulging a shallow sac arises by an orifice measuring $1\frac{1}{4}$ inches, and is filled with soft spongy clots. It projects inwards towards the right, and slightly forwards against the left bronchus and the œsophagus. The wall of the bronchus is bulged inwards, and the lumen of the tube is diminished about one-third, while the œsophagus, carried towards the right and curved in its course, presents a perforation by the aneurysm just under the bifurcation of the trachea. The opening measures $\frac{3}{4}$ inch, and is occupied by pouting thrombi. A marked depression appears on the opposed surface of the œsophageal wall from pressure. At the seat of the perforation the œsophagus is compressed against the right bronchus and a mass of bronchial glands.

As regards the heart muscle, it was noted at the time of the *post-mortem* as of a pale brown colour, but firm. There was slight hypertrophy of the left ventricle, and a very slight degree of dilatation. The valvular structures appeared normal. The pericardium was adherent by a broad band of fibrous tissue at the base of the left ventricle. The stomach contained over 30 ounces of blood.

This specimen possesses interest in so far as it illustrates a comparatively rare termination of thoracic aneurysms, and exhibits a remarkable combination of pressure effects. The œsophagus being loosely attached and soft, is easily pushed aside and stretched by an aneurysm, while the more firmly fixed and rigid trachea or bronchi are the more liable to be eroded and perforated even by very small aneurysms. In this case the perforation of the œsophagus seems to have been determined by its compression against the comparatively rigid structures—the bronchus and glands. The aneurysms are not large enough to have come definitely within the range

of physical diagnosis, but they are so situated that their encroachments on important structures are calculated to have produced a suggestive combination of functional derangements.

Dr. Newman said that the case was of special interest to him, as he had published, in his book on *Malignant Disease of the Œsophagus, &c.*, a somewhat similar case in which an aneurysm of the aorta had occasioned symptoms simulating stricture of the œsophagus; also a case of epithelioma of the œsophagus, which ulcerated and ruptured into the aorta, causing death from hæmorrhage. Though there was no history available in Dr. Buchanan's case, he thought it likely that in it, too, such symptoms (of stricture) would precede the rupture. It was just possible that a surgeon seeing a case of this kind for the first time might pass a bougie—with disastrous results. Dr. Newman had known this to be done. He had seen a patient, admitted to Dr. Scott Orr's wards in the Royal Infirmary, with vomiting of blood, and with the story of there having been symptoms of stricture of the œsophagus. The case had ultimately proved to be an aneurysm which had been perforated by the bougie of a surgeon previous to admission to hospital. When obstruction was felt in the œsophagus about the situation of the bifurcation of the trachea—i.e., when the bougie had passed 13 or 14 inches from the teeth, great care should always be exercised as to further use of the instrument. At the level of the bifurcation is the most common situation for aneurysm to press upon the œsophagus. In such cases the symptoms usually are dysphagia, dyspnœa, and paralysis of one or both vocal cords.

Dr. Charles Workman said that, so far as he could remember, they had seen just two cases of the kind shown by Dr. Buchanan since Dr. Steven and he began work in the *post-mortem* room of the Royal Infirmary. In one of them the opening had been very small, and a large amount of blood had escaped into the stomach and intestine. In the other there had been a large opening, and a great quantity of blood had been poured into the stomach, forming a cast of that organ which they had preserved in spirit.

Dr. Knox had seen only one such case, and that had been found in the dissecting room, so that they had not been able to obtain any history of the previous symptoms. In it the opening had been very similar to that now shown, and of such a size as to admit his fore-finger. It had been plugged to a certain extent by a piece of clot, so that the hæmorrhage

had probably been slow. Dr. Knox quite agreed with what Dr. Newman had said about the necessity for care in the passing of bougies in all such cases.

II.—SPECIMEN OF OSSEOUS TUMOUR OF THE BRAIN.

BY DR. DONALD FRASER.

Dr. Fraser showed an osteoma which occupied the base of a considerable cavity in the right frontal lobe of the cerebrum. The patient, a female, æt 55, had been an inmate of Riccarton Asylum, Paisley, for fifteen years, having been admitted in June, 1878, in her third attack probably of post-epileptic mania. She was the subject of severe epileptic fits, in some of which she received considerable personal injury, and suffered from very acute post-epileptic mania, when she was dangerous to the attendants and the other patients. Gradually during the last four or five years some paralysis of the left arm and leg supervened, the paralysis of the arm, however, not being so complete as to prevent her using it to strike under excitement. She died in August, 1893, from injuries received by falling on her head in a severe fit.

Post-mortem Examination (3rd August, 1893).—No external evidence of injury.

Head.—Calvarium thickened and dense, especially in front, where slightly adherent.

Brain.—Dura mater roughened and thickened in front, especially over right frontal lobe, and firmly adherent to the edges of the hemispheres. A fairly large effusion (about 3 ounces) of dark venous blood in the subdural space, chiefly on the right side; also patch of subarachnoid effusion in the posterior and lower part of parietal lobe; longitudinal sinus filled with dark semi-coagulated blood. There was marked atrophy of the right frontal lobe; it was shrunken and small compared with the left. This lobe was found to be hollowed out by a cavity 2 inches long by $1\frac{1}{2}$ inch broad and $1\frac{1}{4}$ inch deep. Its external wall was formed by the lower, middle, and upper frontal and the ascending frontal convolutions, while internally it was separated from the anterior part of the right optic thalamus by a portion of brain tissue not more than one-sixteenth inch thick. Its floor was occupied by a hard and calcareous looking mass, irregular in shape, somewhat lobulated, fully 1 inch long, about $\frac{3}{4}$ inch deep, and rather less in breadth, which on microscopic examination proved to be true bone. The right optic thalamus was small as compared with the left. Weight of brain, $40\frac{1}{4}$ ounces.

Heart.—About one ounce of fluid in pericardium. A large amount of external fat, but no atheroma or other abnormality.

Lungs.—Both hyperæmic. In upper lobe of right lung a cicatrix with a caseous nodule in the centre. Right pleura adherent at the apex.

Kidneys.—Small; cortex in both pale; capsules slightly adherent.

Spleen.—Very soft.

Stomach.—At cardiac end a patch of hæmorrhagic staining 3 inches by $1\frac{1}{2}$ inch, but otherwise healthy.

Nothing abnormal observed in the other abdominal organs.

Dr. Oswald spoke of a case which somewhat resembled in character that just shown by *Dr. Fraser*. The patient had been a man, 40 years of age, who had been an epileptic and in Gartnavel for many years. The peculiarity of his attacks had been their great severity. When they came on he had been seen to jump into the air to the height of a man's head, his legs becoming flexed on his thighs, and his descent being always upon his head. As a result of the repeated blows, there had been hypertrophy of the skull in the frontal region. After his death they had found, in his right occipital lobe, a tumour of the size of a filbert nut. This resembled the kernel of a walnut, and on microscopic examination it had been seen to consist of true bone.

Most pathologists were of opinion that such tumours originated in an invagination of the meninges, from which the bone developed. In the present case there was no trace of any such invagination; neither was there any connection of the tumour with the meninges, for it lay perfectly free in the cerebral tissue. Round the tumour there was a thin membrane, easily separable from it. There was no fluid between the tumour and this membrane, or between the membrane and the brain, and there was no evidence of abscess. *Dr. Oswald* thought that very probably the epilepsy had been due to this tumour. Such tumours were very rare—very rare even in England, as he had learned from the pathologist of large English asylums with whom he had recently been speaking on the subject.

Dr. R. M. Buchanan submitted a possible origin for osseous tumours of the brain, suggested by analogy from what took place in some other parts of the body. Certain cerebral lesions, on being recovered from, left a small amount of cicatricial tissue, and in such a cicatrix it was not improbable that bone might form, and such bone would be deeply

embedded and removed from the meninges. Of course, the explanation by invagination was also a very probable one for some cases.

Dr. Fraser had been much interested in *Dr. Oswald's* account of the Gartnavel case. The difference between it and his own seemed to be that in the former there had been no cavity, and that the brain substance had not been much affected, whereas in the latter the opposite conditions had been found. He could scarcely agree with the theory as to invagination, which he considered to be an unlikely explanation. He thought that suggested by *Dr. Buchanan* a much more probable one. He had seen many brain tumours, but this was the first of its kind that he had met with.

III.—SPECIMEN OF KIDNEY REMOVED BY LUMBAR NEPHRECTOMY.

By MR. CLARK.

Mr. Clark showed the above specimen, and gave the following report of the case from which it had been obtained:—

"*Mrs. M'C.*, age 33, was admitted to the Royal Infirmary on 26th July, 1894, complaining of a swelling in the right side of abdomen, of some eight months' duration.

"*Family History.*—Mother alive and well. Father died whilst patient was a child. One sister and a brother are living and healthy. There were seven others of the family, but they died in infancy, of causes unknown to patient.

"*Patient's Previous History.*—She was married at the age of 20, and has had three children, the last some six years ago. She had no illness up to the time her first baby was born, but after this her health was not good. She contracted scarlet fever some eight years ago, making a slow recovery. During the past six or eight years she has had two separate attacks of 'congestion of the kidneys' (according to her medical attendant's description).

"*History of Present Attack.*—Eighteen months ago she noticed that on occasions her urine came away in greater quantity at certain times than at others, and that a yellowish-white sediment collected in the vessel. She had to make her water frequently, especially during the night-time. She was treated by her medical attendant, and improved. She noticed about this time a swelling in the right side, but does not recollect observing any difference in the size of the swelling after micturition. She complains of a dull pain over the area of the right kidney behind. This is not a severe pain, but

has caused her some inconvenience for the past few months. She has been gradually losing flesh. Menstruation regular.

"*Present Condition.*—*Cardiac* condition good; the pulse averaging 72 per minute, and of good quality.

"*Lungs* normal.

"*Alimentary System.*—Appetite good; bowels somewhat constipated; does not suffer from dyspepsia.

"*Examination of Abdomen.*—Area of hepatic dulness normal. Between the margin of the ribs and the crest of the ilium on the right side there is noticed a distinct bulging, as if from the presence of a tumour, the most prominent part lying beneath a line drawn from the ninth costal cartilage to the umbilicus. Measurements taken $1\frac{1}{2}$ inch above umbilicus around the body show an increase of nearly 2 inches on the right side as compared with the left—viz., right, $12\frac{1}{2}$ inches, left, 11 inches. On palpation over the area of fulness, there is noticed a distinct tumour, somewhat elastic, movable, and giving a sense of fluctuation. It is traceable backwards into the lumbar region, occupying in reality the position of the right kidney. Patient allows free manipulation of the tumour, and only complains of one tender spot—behind, near the extremity of the twelfth rib. The chief bulk of the mass lies above a line drawn directly outwards from the umbilicus.

"The *urine*, when first voided, is distinctly cloudy, and after standing deposits a thick layer of pus. Specific gravity, 1010; reaction slightly acid; some albumen and a considerable quantity of pus, but no tube-casts were discovered after careful search.

"*2nd August.*—The urine is entirely free from pus, there being only a slight cloud of mucus on standing, and no tube-casts noticed.

"*13th August.*—An examination was made to-day, by means of the *cystoscope*, by Dr. Newman, after the bladder had been washed out three times with boracic solution. When distended with 8 ounces of solution, the trigone of the bladder was seen to be unusually pale in colour and the surface very irregular. Around the orifice of the right ureter the mucous membrane was deeply injected, and from the centre of the area small flakes of pus were seen to exude. The upper portion of the bladder was unusually bright in colour, but no ulceration was discovered. The orifice of the left ureter could not be distinguished, being probably hidden by one of the irregular folds of mucous membrane. A second search was made, but by this time the fluid in the bladder had become so turbid with pus that the examination was useless.

"*14th August (Operation).*—At 8 A.M. patient had a half-grain morphia suppository, and 1 ounce of brandy was administered. The urine was drawn off at 9 A.M., about 1½ ounce. Mr. Clark operated at 9:30, Drs. Newman and Rutherford assisting, the patient being anæsthetised with chloroform by the house-surgeon. An incision was made, running obliquely downwards and forwards in the right lumbar region, parallel to the last rib, and about midway between it and the crest of the ilium, the incision being about 4 inches in length, and involving the edge of the quadratus lumborum posteriorly. The adipose capsule of the kidney was at once opened, and the tumour was found to be enlarged kidney, most of it apparently in a state of abscess. It was found to be very firmly adherent in front to the peritoneum, above to the under surface of the diaphragm, and below to the connective tissue in the iliac fossa. On separation of these adhesions, there was a good deal of venous hæmorrhage. The tumour was somewhat reduced in size by aspiration of the pus, but many of the cavities appeared small, and the aspirator drew blood easily. A good deal of the structure of the kidney was firm, and at one point there was some suspicion of the needle touching a calculus, but this was not quite satisfactorily made out. In spite of the aspiration the tumour still remained very large, and the wound had to be extended forwards, but the peritoneal cavity was not opened.

"Having been freed all round, a silk ligature was passed round the pedicle and a second one nearer to the kidney. Separation was made on the kidney side of both ligatures. Notwithstanding these precautions the ligatures slipped, and some difficulty was experienced in securing the vessels. Much the same thing took place in ligaturing some large veins which passed out of the kidney tumour near its upper end, in both cases the inflammatory nature of the surrounding tissues preventing the ligatures from holding. There was, however, taking the operation all through, a considerable amount of blood lost—probably 8 or 10 ounces. The cavity was thoroughly irrigated with boracic solution, and the wound stitched up with silkworm-gut sutures, a large drainage-tube being introduced at the back part. The wound was dressed with iodoform, sal. alembroth gauze, and wood-wool pad.

"During the operation the patient's pulse occasionally flagged, and was distinctly intermittent when she was not fully under chloroform. She rallied fairly well after the operation, but it was fully twelve hours before her temperature reached the normal.

"The urine drawn off at 6:30 P.M. measured 8 ounces, and was found free from albumen. There was some blood-stain through the dressings, and a pad was put on outside the dressing.

"15th August.—Dr. Newman, in the absence of Mr. Clark, removed the dressing and replaced it by another, but did not wash out the cavity. The wound looked well.

"The patient continued to vomit for intervals during the twenty-four hours after the operation, and was therefore fed entirely by the rectum until the afternoon, when Valentine's meat-juice was administered by the mouth, and was retained. The enemata were continued, and were, for the most part, retained. Notwithstanding this, and the fact that she was getting half an ounce of brandy every two hours, her pulse began to flag, and, while remaining regular in rhythm, was feeble and soft.

"The urine also, which amounted to 16 ounces in the first twenty-four hours, dropped in the second twenty-four hours to 9 ounces, and that drawn at 12 midnight of the 15th inst. was scanty, and contained a considerable quantity of pus.

"16th August.—At 4:30 A.M. the bladder was again emptied of some 2 drachms of pus, and it was afterwards washed out with boracic solution.

"At 6:30 a catheter was again passed, but no urine was withdrawn.

"Patient was very weak at 4 A.M., and 20 minims of ether were injected subcutaneously. This revived her temporarily, and a further 10 minims were injected with a similar temporary result. Patient's strength continued to flag, and she died peacefully at 8 A.M. on the morning of 16th August, 1894.

"No *post-mortem* could be obtained; but, in reviewing the circumstances preceding the fatal issue, the conclusion seems inevitable that the left kidney proved unequal to the strain put upon it, and was the seat of suppuration in a limited degree."

In further remarking upon the case, Mr. Clark said that they might be quite sure that no pus had been allowed to remain in the situation of the right kidney at the time of operation. Pus had, however, come from the bladder after that kidney had been removed. The urine had become scantier and scantier, and had ultimately ceased, and, instead of urine, pus had been withdrawn by the catheter. That all looked very like the other kidney being affected with suppurative disease. The case had been a very good one for

operation in many ways, but everything depended on the other kidney. Unless by catheterisation of the ureters, by palpation, or by the observation of the general symptoms which would be expected from involvement of both kidneys, he knew of no way of being sure as to the condition of the kidney not operated upon. Dr. Newman and he had both failed to catheterise the ureters in this case. He himself was most familiar with Pawlik's catheters, and had used them successfully in a case published in a paper read to the Medico-Chirurgical Society in 1887.¹

Mr. Clark raised the question as to whether it was wise to remove the kidney at once, or whether it would have been better to have first of all performed nephrotomy, a nephrectomy following after an interval. The latter had been his own feeling; but the opinion of surgeons lately was very much in favour of an initial nephrectomy, and this opinion had been strongly expressed at the consultation held over the present case. In his former paper Mr. Clark had expressed the view that it was best to make an exploratory incision into the kidney in the first instance, in order to see what one had to deal with.²

On looking at the present specimen, one might see that the calculus blocked one infundibulum, and there was also to be noted a condition of the substance of the kidney which Mr. Clark believed to be tubercular. Supposing that the kidney had been laid open and the calculus removed, there was thus no part of the kidney which could have taken on work. On that view of it, the only doubt as to the wisdom of removal was that which might be raised as to the amount of shock which the operation involved to the patient.

In conclusion, Mr. Clark said that he had brought forward the specimen not only on account of its pathological interest, but also because of the questions which might be raised in reference to it as to the choice of operation.

Dr. J. Lindsay Steven had not been able to complete the microscopic examination of the kidney, but the naked eye appearances were those of a tubercular lesion.

Dr. James A. Adams spoke of two cases which had recently been under his care. The first had been almost identical with Mr. Clark's. The kidney had been removed without difficulty, and without loss of blood; the patient had rallied fairly from the shock; but about thirty-six hours after operation the urine began to diminish in quantity, and death

¹ *Glasgow Medical Journal*, vol. i, 1887, p. 321.

² *Cf. loc. cit.*, p. 330—"In the present state of our knowledge, &c."

had taken place on the third day. This result had been so disappointing that in the second case he had adopted a different plan, and had first of all merely incised the kidney, finding simply a bag of pus with calculi enclosed. He had stitched the kidney to the wound, and urine had been passed through the wound, as well as 30 to 40 ounces from the bladder. After four or five weeks the question of further procedure had been discussed, and the patient had himself chosen that operation should be undertaken. The kidney had then been enucleated, and the patient rallied; but twelve hours afterwards there was total cessation of urine, and death took place. Dr. Adams thought that if the man had been left alone he would have lived for some months. Unfortunately, in neither case had they been able to get a *post-mortem* examination. The result was most disappointing in both. He thought that in a future case he would be inclined, before making a nephrectomy, to cut down upon the other kidney, and satisfy himself as to its condition.

Mr. Maylard thought they were much indebted to Mr. Clark for having brought forward the case, especially as it had not been a successful one, and they often learned most from such cases. He agreed with Mr. Clark that the line of treatment which this case suggested (of a preliminary nephrotomy) was the right one. He had not himself had the chance of doing a nephrectomy; but, supposing he had, he would do a nephrotomy first, and he thought that that should be done in all cases where one was not perfectly sure what the condition of the other kidney was. He thought that Dr. Adams' second case bore out the advantage of nephrotomy. If nephrectomy had been performed in it at first, the patient would have died so many weeks sooner. He had been under the impression that the feeling of surgeons had been in the opposite direction to that quoted by Mr. Clark.

Dr. Newman had taken a great deal of interest in Mr. Clark's case, not only in connection with the catheterisation of the ureters, but also in view of his having made the cystoscopic examination. That examination had been satisfactory to this extent that they had been able to see the pus passing from the right ureter and welling up in little drops. At the first examination they could see nothing coming from the left kidney; on a second trial the contents of the bladder had become so turbid as to render observation impossible. As regards the catheterisation of ureters, he thought it right to say that in the male it was often a very difficult operation, and especially when the wall of the

bladder was diseased. One must gain a certain degree of dexterity in the use of the catheters. He had devoted a considerable amount of attention to the operation, and had first of all practised largely on dead bodies, both in the male and the female. In the female it was not difficult, but in the male it was more or less a matter of chance whether one got into the ureters or not. If one did get a satisfactory examination its importance was very great; if, for example, they had been able to get healthy urine from the left ureter in this case the information thus acquired would have been invaluable. All that he had been able to say from the cystoscopic examination had been that they had seen no pus coming from the left ureter, while they had seen it coming from the right. Mr. Clark had removed the right kidney, and its condition explained where that pus had come from. When the patient was under chloroform Dr. Newman had thought the kidney not to be very adherent so far as palpation went, but in such cases it was often difficult to make out the degree of adhesion because of the union being with the diaphragm. He would remind Mr. Clark of the number of adventitious vessels, and especially veins, which they had found, and which had been the explanation of the difficulties as to hæmorrhage.

When Dr. Newman saw the patient after the operation he had found the dressing soiled merely with serum, and from her condition then he would have expected a good result; but in renal cases they often saw what he might call, for want of a better name, "delayed collapse," Mr. Clark's patient appearing well for two days or so and then collapsing. What this was due to was a mystery. In renal operations sometimes the amount of nervous shock seemed altogether out of proportion to the operation itself. Last spring he had removed a kidney (the right kidney), the other being perfectly healthy, and three days after the operation the patient had been taking food fairly well, when death suddenly took place—not from suppression of urine or from septic mischief, but from "delayed collapse," from some influence which he could not properly understand or explain.

Dr. Adams had mentioned the question of examining the kidney on the opposite side. He (Dr. Newman) had been inclined of late to choose the abdominal operation rather than the lumbar. In it one had the opportunity of examining both kidneys by palpation. The statistics for that operation were bad, but then the abdominal operation had usually been chosen for the cases in which the tumour was very large.

In other (and less troublesome) cases he did not think it more dangerous than the lumbar operation. If it gave the surgeon the opportunity of knowing the state of the other kidney, that was a great point in its favour. The abdomen could be kept quite aseptic in removal of renal, as of other, tumours. The plan should be to open the abdomen, and, if both kidneys were found diseased, to shut it up again. The lumbar operation, if performed as a matter of routine, and without accurate knowledge of the condition of the opposite kidney, was a very serious operation. The tendency at the present time was for surgeons to adopt abdominal nephrectomy in most cases, not reserving it as formerly to the most serious diseases only. Dr. Newman would say from the naked-eye appearances that the kidney in Mr. Clark's case was tubercular.

Dr. J. Lindsay Steven said that, from his experience of *post-mortems*, he had formed a very unfavourable opinion of nephrectomy. The variety of cases he had seen had led him to this view. Dr. Newman had referred to a case of his in which the opposite kidney had been healthy. Dr. Steven agreed with him as to its being healthy, for he had made the *post-mortem* examination. Dr. Newman had explained the death as due to "delayed shock." Dr. Steven thought that that was just a theory, and he himself would attach more importance to the indications he had found in the body, of the patient's having been a fragile person, with healed tubercle in both lungs. There had evidently been a basis of delicacy of constitution, which was bound to tell against the patient when an operation was performed of the magnitude described by Mr. Clark. Dr. Steven thought we had still much to learn from the ancients, who attached so much importance to the question of the general constitution, and to the discrimination between what was possible and what was not possible. He might mention another difficulty which might arise. He had made the *post-mortem* examination in a case in which, at the operation, a calculus had been found impacted in the kidney, and the kidney removed. Another calculus was impacted on the opposite side, and no urine was passed after operation. There must always be great difficulty in deciding as to the state of the other kidney. In Mr. Clark's case there had been the difficulty as to the catheterisation of the ureters, and here was a kidney with a calculus in it, altogether unsuspected. These were grave matters, and it was no wonder that pathologists were inclined to form rather an unfavourable view of this serious operation. He quite agreed with Mr. Clark and Mr. Maylard in thinking that it was possibly a more hopeful

procedure to evacuate the kidney first of all, as Dr. Adams had done in his second case, but even then they had the same death, apparently from shock. He would ask the surgeons what their statistics had been. They had heard that evening of five cases—all fatal, and all fatal within two or three days. There was this fact, too, to be remembered—that one did get precisely similar cases, with calculi impacted and the kidney riddled with pus, and yet the patient made no complaint, and the condition was discovered only at the *post-mortem*. He had himself seen such a case.

Dr. Knox, after expressing his thanks to Mr. Clark for the communication, spoke of pyonephrosis, whether due to tubercle or calculus, as really a very serious affection, and he thought that Dr. Steven had been quite right to draw attention to its great gravity as he had done. Nephrotomy and nephrectomy were both serious operations, and had both been found in his (Dr. Knox's) experience to be associated with much shock. He could not explain the deaths after nephrectomy or what this shock was. After twenty-four hours he thought it meant inflammation of some sort, and that the cause of death was a blood-poisoning, but whether it was so or a mere shock he could not say definitely.

Mr. Clark asked if he set aside the question of suppression of urine.

Dr. Knox said that suppression was a part of it, and that it was altogether something very complicated and hard to understand. He had had a case in which, eight days after removal of a kidney for abscess, the patient had died, apparently from exhaustion, but with symptoms just akin to those described for the deaths at three or four days after operation. In another case, the death had occurred on the third day, with similar symptoms. In still another, there had been death from hæmorrhage, a few hours after operation. Dr. Steven had asked for statistics. So far as he could remember, he had had six cases of nephrectomy in females, with three deaths, and two in men, with one death. The deaths in the females had been from hæmorrhage and from this so-called "shock," and in the man it had been put down as due to exhaustion.

Nephrotomy was also frequently followed by severe shock. He had had several cases in which this occurred. He had had no fatal case. The last case in which he had operated had had very marked suppression of urine, and for two days or so there had been practically nothing but pus in the bladder; but, to his great relief, urine had begun again to be excreted, and the

patient had recovered. So he could not be quite sure that a preliminary nephrotomy was any great advantage. He had often thought that it would be an advantage to take the operative procedure in two stages, but he was not quite sure. Knowsley Thornton, with his large experience, might be quoted as strongly in favour of the whole operation (nephrectomy) being performed at once, and when one remembered the shock from nephrotomy, and the exhaustion from the continued discharge which that operation involved, there was much to be said for immediate nephrectomy. It was, however, for the abdominal and not for the lumbar operation that Thornton argued. In the former, one could open into the abdomen, and explore both kidneys and both ureters; having done this, and having found one kidney only involved, one should then proceed from the front to remove the affected kidney. Dr. Knox thought that this would come to be the method of the future, and that as they got more experience in it their success would increase.

Dr. T. H. Bryce raised a point with regard to what had been called "shock" in discussing the manner of death in the cases under consideration. In nephrectomy, the supra-renal body and sympathetic nerves would be removed, and blood pressure would thus be much influenced. The renal circulation, and that in the abdominal veins, would be materially altered, and this might explain the symptoms which had been described.

Dr. Knox asked if Dr. Bryce was right in saying that the supra-renal body was removed with the kidney. He always cut right down to the fibrous capsule, and tried to shell the kidney out.

Dr. Newman said that the adhesions were usually so extensive that one could never be confident as to how much or how little was being removed.

Dr. Bryce said that the renal plexus, at least, was bound to be removed, and that, in a nephrectomy which he had recently seen performed for sarcoma, the supra-renal body had likewise been taken away.

Mr. Clark, in reply, referred first of all to Dr. Steven's enquiry as to statistics. It should be remembered that in the *post-mortem* room they saw only one side of the question; there was also a hopeful side. Mr. Clark had had four cases, with two deaths. If one were always to be debarred from operating because a patient had "constitutional weakness," it would not be easy to know where to draw the line. He operated on very many who had healed tubercular lesions,

and quite recently had had to perform a serious operation (with successful result) on a patient whose general condition was far inferior to that of the present case. Mr. Maylard's question as to the current opinion of surgeons had been answered by Dr. Knox's quotation of Knowsley Thornton's views. At the date of Mr. Clark's former paper he had referred (p. 330) to a 4 per cent difference in favour of preliminary nephrotomy. He quite agreed with Dr. Knox as to there being shock after nephrotomy. He had performed that operation for many conditions, and had seen very serious vomiting result from the manipulation of the kidney. Still he thought that the shock after nephrotomy was much less than that after the large operation of removing a kidney in a state of suppuration, and with much adhesion. As to Dr. Newman's remark about the adhesions, he had noted, on his first palpating the tumour (before admission to hospital), that it seemed to be adherent above and in front, but free behind and below. At the operation they had found it adherent below. Such tumours were always more adherent than they seemed to be on palpation.

Then, as to "delayed collapse," that had been witnessed even in cases which recovered, and even in some of them it had come on days after the operation. There was no doubt that such cases showed a very great disturbance, local or constitutional, and he thought that there was something in Dr. Bryce's suggestion, which, moreover, had the merit of being a physiological one.

In 1887 the statistics available for all cases of nephrectomy showed a mortality of 50·83 for the abdominal operation, and 36·93 for the lumbar; but, as Dr. Newman had pointed out, the abdominal cases always included those of difficult diagnosis and of large tumours, so that the comparison was by no means fair. In the present case it would have been very difficult to remove the tumour by the abdomen; for, in breaking down the adhesions, as they had had to do, they would almost certainly have had rupture of some abscess cavity, and infection of the peritoneum.

He had no note of any examination of the urine for tubercular bacilli having been made.

IV.—CARD SPECIMEN.

By MR. MAYLARD.

Encysted Hydrocele of the Cord.—Dissected out entire from the inguinal canal.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

DISEASES OF THE THROAT.

By JOHN MACINTYRE, M.B.

Repeated Perforation of the Crico-Thyroid Membrane for Treatment by Sprays and Vapours in the Larynx and Interstitial Intra-Pulmonary Injections. By Dr. Rousel.—In this paper the author explained that, in order to convey a medicament directly into the deeper parts of the larynx and the subglottic region, he was in the habit of perforating the crico-thyroid membrane with one thrust of an exploring needle (5 centimetres long), and then injecting with a syringe (capacity, 5 cubic centimetres) either pilocarpin or strychnine into the glottis tissue, which are especially swollen with tubercular œdema. As a topical modifier of diseased tissues he employed arseniate of strychnine, hyposulphites, and phosphate of soda, or a solution of pure carbolic acid in almond oil. For direct pulmonary absorption he advised spraying the above mentioned remedies into the trachea, or oily solutions of menthol, thymol, &c. Dr. Rousel assured the section that the perforation of the crico-thyroid membrane was not difficult, did not disturb the patient very much, and left no trace whatever.—(*British Journal of Laryngology*, August, 1894).

Diagnosis of the Acute Affections of Diseases of the Throat, with special reference to Diphtheria.—Dr. R. S. Norris Wolfenden introduced a discussion at the British Laryngological Association upon the nature of so-called follicular tonsillitis and its relation to infectious disorders. This paper is exceedingly interesting, inasmuch as it reviews the old and new methods of classifying the acute infectious disorders of the throat. The author pays special attention to the classifications founded upon clinical evidences, and then systematically reviews the classifications founded upon bacteriological investigations. He admits that the time has not yet arrived when we may classify different forms of throat affections upon a bacteriological basis, yet he believes the time is not far off when we will abolish such terms as "croupous," "diphtheria," "diphtheroid," "membranous," &c. Bulloche, he says, made an attempt to do something in the following way:—(1) Staphylococcal throat (angina), (2) streptococcal throat, (3) pneumococcal throat, (4) Roux and Yersin's coccal angina (angina à coccus).

This paper led to a discussion, and the outcome of it was the formation of a Committee, consisting of Dr. Macintyre, Dr. Wolfenden, and Mr. Lennox Browne, who were deputed to draw up, on behalf of the Association, a petition to be presented to the Local Government Board, urging the importance of appointing stations throughout the country where bacteriological examination of all suspected cases could be rapidly conducted, so that means might be taken at once for proper isolation and treatment.

This memorial stated that as a result of a recent meeting of the British Laryngological and Rhinological Association, when a paper was read by Dr. Norris Wolfenden emphasising the importance of the early recognition of the acute infective diseases of the tonsils, and the pressing necessity for the isolation of patients suffering from these disorders, greater facilities should be afforded for bacteriological examination by the establishment of stations for the purpose throughout the kingdom. The memorial also stated—"No true progress can be made in the proper classification of their relative virulence except by scientific research, and only by such a system can efficient notification be effected, with a corresponding relief from the onerous responsibility which now presses on the medical profession in cases of doubtful diagnosis."

This memorial was signed by the president, two ex-presidents, the vice-

presidents, and members of Council. It was also agreed to forward a copy of this memorial to the Local Governments in every part of the kingdom.—(See *Journal of Laryngology* for August, 1894.)

Means of Prevention of Diphtheria as Carried out in New York.—Whatever our views may be of the efficacy of treatment in this disorder—and this remark applies to recent investigations as well as older therapeutic agents—no one will doubt the wisdom of prevention of the spreading of this terrible malady. The greatest difficulty hitherto has existed in early diagnosis in the acute infective disorders. Now, however, the discoveries of Klebs, Loeffler, Roux, and Yersin, have placed us in a position to establish a true classification founded upon an etiological factor. Without such a factor, it would be impossible to make much progress, because many of the signs hitherto regarded as characteristic of a particular disease, such as diphtheria, have now been proved to exist in other acute affections of the throat. In New York the medical profession has taken advantage of this, and a system has been laid down in that city, consisting chiefly in the appointment of a bacteriological inspector, and a depot where culture tubes can be obtained, and which are collected each day. A small box is supplied containing the culture tubes, a swab for inoculating it, and arrangements for recording the name and address, &c., of the patient. Practitioners have received circulars intimating where the depots are where these can be obtained. The directions are:—"The patient should be placed in a good light, and, if a child, properly held. In cases where it is possible to get a good view of the throat, depress the tongue, and rub the cotton swab gently, but freely, against any visible exudate. In other cases, including those in which the exudate is confined to the larynx, avoiding the tongue, pass the swab far back, and rub it gently against the mucous membrane of the larynx and tonsils. Without laying the swab down, withdraw the cotton plug from culture tube, insert the swab, and rub that portion of it which has touched the exudate gently but thoroughly back and forth all over the surface of the blood serum. Do not push the swab into the blood serum, nor break the surface in any way. Then replace the swab in its own tube, plug both tubes, put them in the box, and return the culture outfit at once to the station from which it was obtained.

"A report will be forwarded the following morning by mail, or can be obtained by telephone after twelve noon."

It is stated that the success of this new department of the New York City Health Department has far exceeded any anticipation.—(See *Journal of Laryngology*, September, 1894.)

DISEASES OF THE EAR.

By DR. WALKER DOWNIE.

The Radical Cure of Otorrhœa. By Hugh E. Jones, M.R.C.S.—This is a lengthy paper on a very important subject, as, until recent years, chronic otorrhœa was considered practically incurable. Worse still, patients or their parents were frequently told that a discharge from the ear was of no consequence; that the discharge would cease (that it would "run itself dry") at a particular age; that, if it were stopped, deafness would ensue, or the discharge would turn inwards and affect the brain. Such mis-statements are unfortunately still made occasionally, and they hinder the adoption of radical measures by the aural surgeon in many suitable cases. In the radical cure of all chronic cases the principles of treatment are the same—drainage, the removal of all disintegrated or hypertrophied tissue and neoplasms, and antiseptics. Mr. Jones, after classifying the cases according to a variety of circumstances which he details, describes the following radical operations:—(1) Excision of the ossicles and tympanic membrane through the external meatus; (2) Stacke's operation; (3) free opening and ablation of the mastoid

antrum (antrectomy) from the outer surface of the mastoid bone, with or without extraction of the ossicles through the same opening; and (4) the Stacke-Schwartz operation, which is a combination of 2 and 3.—(*The Liverpool Medico-Chirurgical Journal*, July, 1894.)

Otology at the Bristol Meeting of the British Medical Association.—Dr. P. M'Bride, the President of the section devoted to Laryngology, Rhinology, and Otology, referred to recent advances in the knowledge of diseases of the ear. The examination of the ear by exposing it to sounds of different pitch; cases of hæmorrhage from the meatus, periodic in character, and in some of which no bleeding point could be detected; definite types of ear disease following influenza; various operations resorted to in the treatment of deafness from sclerosis of the middle ear. Reference was also made to the use of pilocarpin and of massage over the mastoid, to promote absorption of inflammatory products within the tympanum. Surgical treatment of suppurative diseases of the ear—removal of the ossicles, opening into the mastoid antrum, exposing the attic, removing the posterior wall of the meatus, &c.—being spoken of as a most important advance, and that which overshadows all other otological novelties.

"The prognosis of chronic non-suppurative otitis media with imperforate membrane" was the subject chosen for discussion. The discussion was opened by Mr. Field and Dr. Barr, both of whom examined in detail the various conditions leading up to, or more or less closely associated with, middle-ear sclerosis and their bearing on prognosis. Mr. Field gives the gist of his paper in the following summary:—

"1. Prognosis in chronic middle-ear catarrh is most favourable in children and young adults, in whom the cause is plainly attributable to local and removable obstruction, naso-pharyngeal or faucial abnormalities, or to simple mucous obstruction of the Eustachian tube from a common cold or other temporary catarrhal condition, the results of inflation and other tests satisfying us that secondary changes have not yet transpired to impede the functions of the membrane and ossicles.

"2. When, from whatever cause arising, or however long or short the duration, or from the age of the patient, and other circumstances, the hearing power after inflation is recovered in part only, the inference is that the consecutive changes due to organisation of secretions have already commenced, and that, slowly or quickly, depending upon a number of conditions, the disease will continue to develop no matter what treatment be adopted.

"3. The prognosis is unfavourable where, with much deafness, there is no improvement whatever after forcible catheterism, dilatation of the Eustachian tube, removal of secretions, or the intra-tympanic injection of solvents.

"4. The prognosis is absolutely bad (still as regards improvement) when the symptoms point to primary sclerosis; and worst of all (as regards in this case retention of any hearing power) where, with or without sclerosis, the tuning-fork tests point to serious labyrinthine disturbance."—(*Journal of Laryngology*, September, 1894.)

Of the other papers, in the order in which they were read, the following may be noted:—

"On the Care of the Ear during the Course of the Exanthemata," by Walker Downie, M.B. In this paper the statistics of 600 cases of diseases of the ear which have been under the care of the author at the Royal Hospital for Sick Children, Glasgow, are given, and attention drawn to the large proportion of cases due to middle-ear catarrh associated with measles and scarlet fever. The prevention of middle-ear inflammation, with its subsequent disastrous results, is the object of the paper, and the methods of preventing accumulation of mucus in the post-nasal space in the Eustachian tubes and tympani are described. The author is of opinion that if inflation was adopted as a part of routine practice, retention of secretion within the middle-ear, in sufficient quantity to do harm, would be next to impossible, and loss of important structures connected with the organ of hearing a comparatively rare occurrence.

"Deaf-mutism as a Clinical Study," by J. K. Love, M.D. This is a plea for the systematic examination of the organ of hearing in all deaf children. Deaf-mutes have long been regarded as outside of medical practice, chiefly because of the fallacious idea that all such persons have been born so, that they are all quite deaf, and that they are defective characters incapable of taking any useful place in society.

The author suggests that every institution for the deaf and dumb should have an aurist who could and would examine the hearing of every child admitted to the institute; that otologists should combine to direct the attention of the profession and of the public to the more careful treatment of diseases of the ear, and especially to those ear affections which complicate the exanthemata. Marriages among the congenitally deaf should be discouraged, or, if necessary, prohibited; and the temporal bones and the brains of deaf-mutes should be carefully examined after death, and the reports published.

Dr. Dundas Grant read a paper "On a better appreciation of Reiné's Test;" Dr. Barr a short communication on "Excision of the Malleus as a Preliminary Operation to Opening the Antrum in Cases of Suppuration from the Attic Antrum;" and Dr. Milligan an observation upon excision "of the Ossicula Auditus in Chronic Suppurative Otitis Media."—(*Journal of Laryngology*, September and October, 1894.)

DISEASES OF THE SKIN.

By DR. A. NAPIER.

Sulphocarbulates in Purpura.—Dr. Sansom reports a case of purpura hæmorrhagica with acute pemphigus, probably induced by influenza. The patient was a girl of 12, and was in a critical state when admitted to hospital. Extravasations of blood were seen about the eyelids; there was much oozing of blood from the mouth; hæmorrhagic stains and spots were observed on the skin covering the chest, abdomen, and back, as well as the upper and lower extremities. Bullæ (as of pemphigus) containing deeply blood-stained fluid were present on the left ala nasi, over the abdomen, the arms, and legs. The tongue, generally stained darkly, presented several small bullæ over its dorsum and sides; similar blebs were seen within the lips, all containing blood-stained fluid, some bursting and liberating their contents to produce oozing from the mouth. There was vomiting, the vomit being blood-stained; and much blood was voided with the evacuations. The urine contained a trace of blood. The pulse was 124, the respirations 34 per minute; cough occurred, with deeply blood-stained sputa; bronchitic râles were heard over the chest front and the base of the right lung. The temperature on admission was 98.8° F., but rose on the day following to 103.8° F. Half-drachm doses of sodium sulphocarbulate were administered every four hours. During the next five days the signs were little changed. After nine days, though there were indications of some general improvement, hæmorrhagic extravasations were observed on each fundus oculi, with signs of double optic neuritis. There was, however, continuous amendment, though the temperature rose on one day to 105° F., and on the next to 104° F. The patient was discharged quite well after having been in the hospital for thirty-six days. It was thought probable, considering the mode of onset and the accompanying pyrexia, that the disease in this case was due to an infective agency. Collateral evidence showed that influenza might be attended with the signs and symptoms noted. In another well marked case the administration of sodium sulphocarbulate in half-drachm doses every four hours for a protracted period had been practised, and the patient completely recovered. Encouraged by this, Dr. Sansom adopted the like plan of treatment in the case now brought forward, and the recovery was equally satisfactory.—(*Lancet*, vol. i, 1894, p. 1,375.)

Taches Bleuatres.—The peculiar bluish stains known as *taches bleuâtres* have been recently studied by Sir Dyce Duckworth. They occurred in a young man suffering from pleuro-pneumonia. There was no suspicion of enteric fever, and no pediculi were met with. Sir Dyce Duckworth is not prepared to accept the view that the sole cause of the bluish stains are pediculi pubis. They may, he states, be expected to occur in typhoid fever and some other febrile disorders, quite independently of these parasites.—(*Brit. Journ. of Dermatol.*, vol. vi, No. 3, 1894, p. 84.)

Bromide Eruption.—A case of severe bromide eruption in a child of fourteen months is recorded by Mr. Jonathan Hutchinson. Doses of bromide from 2 to 6 grains had been given every four hours for three weeks. The eruption consisted of thick tuberos papules, which had formed on the face and limbs. There were none on the trunk. Those on the legs were ulcerated, and covered with thick pus crusts. The skin between the tubers was, as usual, quite healthy. In reference to the fact that the eruption had not been immediately arrested by leaving off the drug, Mr. Hutchinson remarks that a certain time must be allowed for elimination. In some cases, however, if the drug have been used for a considerable time, the process of morbid growth is not stopped by removal of the exciting cause, but goes on to a fatal termination.—(*Medical Press and Circular*, vol. cviii, 1894, p. 325.)

Treatment of Gutta Rosæa.—Dr. H. S. Purdon recommends the following treatment for "acne rosacea." The dietary and any gastric derangement having been attended to, this local plan gives good results:—Bathe the affected parts with spirit of horse-radish, say in the morning; at bed-time rub pretty firmly into the diseased parts a pomade of sulphur combined with a small quantity of carbolic acid. Sometimes good results are obtained by substituting the green iodide of mercury (10 grains to the ounce) for the carbolic acid. All comedones are to be squeezed out with an extractor. As a "reducing" agent, ichthyol is often better than the sulphur. Dr. Unna has informed the writer that he has never recommended ichthyol in acne, but only in rosacea, which is never, in his opinion, a sequence of real acne, but of seborrhæic eczema, the tubercles of which are those of a special folliculitis. This common mistake explains, perhaps, the use by some dermatologists of ichthyol in acne.—(*Dublin Journ. of Med. Science*, vol. cclix, 1894, p. 402.)

The Rational Treatment of Urticaria.—Dr. Stephen Mackenzie says that the treatment of urticaria resolves itself into the following points:—(1) To discover the causes of the disease, and when discovered to remove them if possible; and (2) to mitigate the effects. In searching for the causes, we must not leave out of sight local irritations. The possibility of fleas, bugs, pediculi, &c., should be remembered, and irritating clothing must be replaced by soft and soothing garments next to the skin. As regards indirect irritants, in some cases these are clearly indicated, as the attack promptly follows some unusual article of diet. It is too late to expel these from the stomach; but the peccant matters may still be in the intestinal canal, and we should therefore prevent further possibility of absorption by giving an efficient aperient. In many cases the particular cause cannot be discovered, so that the patient ought to be carefully instructed to observe his other idiosyncrasies in this respect. Some writers have pointed out that the articles of food are nearly all luxuries, and not necessities of diet. Acute cases need scarcely any treatment. A simple and bland diet, a stomachic, and a warm bath are all that is needed. In more obstinate cases we have to employ remedies which soothe the skin, and lessen the excitability of its nerve plexuses. Of much service is a nightly bath lasting fifteen minutes, to which is added starch or potassa sulphurata—2 ounces to 30 gallons of water. After the bath the body should be rubbed with a lotion of carbolic acid and glycerine, or smeared with salicylic acid vaseline. In the severe form, known as *urticaria gigas*, Dr. Mackenzie has found the greatest benefit from swathing the affected

parts with lint soaked in glycerine of lead (1 ounce to 20 of water). Of internal remedies, antipyrin yields the greatest benefit; 20 to 30 grains may be given at bedtime. Atropine is sometimes very beneficial, in doses of $\frac{1}{15}$ to $\frac{1}{10}$ of a grain. Colchicum has been found of service in cases which appear to be gouty or due to defective action of the kidney.—(*Brit. Journ. of Dermatol.*, vol. vi, No. 3, 1894, p. 75.)

On the Disinfection of Scarlet Fever Patients before the Completion of Desquamation. By William Gibson, M.D. Edin.—It seems to be the received opinion in regard to scarlet fever that until desquamation ceases contagion is still present. From the long period this process occupies in many cases, and the inconvenience and irksome toil and trouble therefrom arising to families in private practice, I was led to investigate the correctness of the common opinion, and to ascertain whether or not sufferers from this disease might not by some method of cleansing or disinfecting be freed from the contagion before the process of desquamation was completed. In every case I have found that the means used were successful. The method adopted was simple enough. It was to give a succession of three or four (generally not more than three) comfortably warm baths, sometimes daily, at other times on alternate days, using freely carbolic acid soap, and washing the patient most thoroughly from top to toe. After each bath, except the last, the patient was put back to the bed on which he had lain with the disease: after the last he was taken from the bath into a clean room, there dressed with clothes free from infection, and then allowed to mix with the rest of the family. Any patient with a complication such as otitis, or ulcerated or suppurating throat, was not subjected to the process.—(*The Practitioner*, July, 1894.)

Acanthosis Nigricans.—At a recent meeting of the Royal Medical and Chirurgical Society, Mr. Malcolm Morris showed a case of this exceedingly rare disease. The patient, a single woman, æt. 35, was admitted into St. Mary's Hospital on 15th February, 1894, suffering from widely disseminated discoloration of the skin, with diffuse warty growths in various parts. Previous to the appearance of the disease her health had been good, but for more than a year before the onset menstruation had been very irregular, chiefly on the side of excess. In October, 1893, she noticed general bronzing of the skin over the upper part of the body; and crops of large flattish warts came out on the hands, in the axillæ, on the umbilicus, and elsewhere. These were soon followed by the appearance of black patches in various situations, but mainly where wartiness was most marked. On admission she looked wasted and weak, but her temperature was normal, and there was no evidence of disease of any of the internal organs. The skin over nearly the whole of the body was rough, and for the most part distinctly bronzed, with the exception of the face, which was the seat of a permanent deep blush; the natural folds were almost everywhere exaggerated, particularly in the neck and on the hands, where the skin felt like rough-piled velvet. Round the neck there was a wide band of blackish discoloration, which spread downwards in front between the mammæ and some way on the abdomen; similar patches were seen in the axillæ, the bends of the elbows, and the popliteal spaces. The axillæ were occupied by masses of warty growths deeply fissured here and there; from the fissures there oozed an offensive discharge, which seems to have washed the staining material out of the middle part of the papillomatous mass. A few small warts were scattered about the face and the lower part of the forearm on the flexor aspect. The umbilicus was the seat of a button-like wart of considerable size, surrounded by a black zone; from this wart an offensive discharge exuded. A few warts were scattered about on the thighs, and there was general roughening and thickening of the skin, particularly on the soles of the feet, with bronzing about the knees and ankles, and yellow discoloration of the soles. There were masses of warts in each auditory meatus, and the patient was partly deaf in consequence. The mucous membrane of the lips, cheeks, palate, and gums was wrinkled, dry, and warty; there were large

warts, with deep fissures between them, on the tongue. A similar condition existed in the vagina. The throat was affected. The black stains were found to be caused by masses of tiny granules situated in the superficial layers of the epidermis; on microscopic examination they were found to consist of dried epithelial scales with no trace of pigment. The warty growths were papillomatous in structure. The condition gave rise to no subjective symptoms except an uncomfortable dryness of the lips and mouth. While the patient was under observation the black discoloration spread over the whole of the abdomen, and over the back as high as the middle of the scapulæ. There was some further development of warts on the scalp and in the lumbar region. A thick growth of light-coloured hair took place on the face, and to a less extent on the chest and abdomen. Slight improvement was noticed in some parts, especially on the hands, knees, and feet. The patient's general condition continued fairly good, but she had become very nervous, and the knee-jerk was absent on both sides. The umbilical growth had been removed, and the warts in the ears had been treated with salicylic acid with some success. The case was submitted as an example of the disease called by Unna "*Acanthosis Nigricans*." Only two similar cases had been recorded (Pollitzer, Janovsky). Nothing was known as to the pathology of the condition.—(*Proceed. Roy. Med. and Chir. Soc.*, June, 1894.)

Treatment of the Eczema of Infants.—Marfan says that the child should be fed as follows:—For the first month it should have the breast regularly every two hours during the day, and twice during the night; for the second and third months, seven times in the day, and once in the night; from the fourth to the sixth month, six times a day, once in the night; and during the next three months six times a day. The diet of the nurse must be strictly regulated. For internal treatment Dr. Marfan recommends the use of calomel, in doses of one-sixth to one-fourth of a grain, administered once a week or twice in ten days. Locally the affected surface must be kept rigidly clean, and free from crusts and scales, by the use of starch-poultices and washing with a 3 per cent boric acid lotion; and in cases of impetiginous eczema a very weak watery solution of corrosive sublimate, such as 1 in 10,000, ought to be used. In three or four days this treatment should be stopped, and an ointment consisting of 1 drachm of oxide of zinc, 15 grains of sulphur, and half an ounce each of lanolin and vaselin, substituted. In place of the sulphur, resorcin may be used, from 5 to 15 grains, according to the tolerance of the skin of the patient. Where there is dry eczema in scattered patches in youthful dyspeptics, the digestive troubles must be carefully attended to. The most minute details on the sterilisation of the milk must be given, the degree of dilution, the quantity of the milk, and the number of times the child should be fed. If there be vomiting, Dr. Marfan washes out the stomach, and irrigates the large intestine with boiled water. When there is green, watery diarrhoea, he prescribes paregoric elixir, salicylate of bismuth, or salol. In violent itching, the child must be prevented from scratching, either by tying its hands or covering the affected part. If dentition brings on an acute attack, the irritation of the gums may be relieved by touching them with the finger dipped in a solution of cocaine and bromide of potassium.—(*La Semaine Médicale*, p. 138, No. 18, 28th March, 1894.)

Auto-intoxication and Skin Diseases.—G. Singer attributes much to intestinal fermentation in the production of cutaneous affections, and with a view to treating the consequences of this fermentation, prescribes a solution of menthol in olive oil, of the following composition:—

Olive oil,	0·25 centigrammes.
Menthol,	0·10 „

This is dispensed in twenty gelatine capsules, six to ten being taken daily, whereby the asepsis of the intestine is assured.—(*Lyon Médical*, vol. 1, 1894, p. 136.)

Books, Pamphlets, &c., Received.

- Dissections Illustrated, by C. Gordon Brodie, F.R.C.S., with Plates by Percy Highley. Part III: the Head, Neck, and Thorax. London and New York: Whittaker & Co. (10s.)
- First Aid to the Injured and Management of the Sick, by E. J. Lawless, M.D., D.P.H. With 49 Engravings. Edinburgh and London: Young J. Pentland. 1894.
- Practical Manual of Diseases of Women, by H. Macnaughton-Jones, M.D. Sixth Edition. London: Baillière, Tindall & Cox. 1894. (12s. 6d.)
- The Sanitary Code of the Pentateuch, by the Rev. C. G. K. Gillespie. The Religious Tract Society. 1894. (2s.)
- Asthma and Chronic Bronchitis, by John C. Thorowgood, M.D. London: Baillière, Tindall & Cox. 1894. (4s.)
- Alpine Climates and Consumption, by H. J. Hardwicke, M.D. London: J. & A. Churchill. 1894. (2s. 6d.)
- The Practice of Medicine, by M. Charteris, M.D. Seventh Edition. London: J. & A. Churchill. 1894. (10s.)
- A Treatise on the Diseases of the Ear, by T. Mark Hovell, F.R.C.S. London: J. & A. Churchill. 1894. (18s.)
- Wright's Improved Visiting List, compiled by Robert Simpson, L.R.C.P. Bristol: John Wright & Co. 1895. (5s. 6d.)
- On Chorea and Choreiform Affections, by William Osler, M.D. London: H. K. Lewis. 1894. (5s.)
- The Dyspepsia of Phthisis, by William Soltau Fenwick, M.D. London: H. K. Lewis. 1894. (6s.)
- Medical Nursing, by the late James Anderson, M.D.; Edited by Ethel F. Lamport; with a Biographical Notice by Sir Andrew Clark, Bart. London: H. K. Lewis. 1894. (2s. 6d.)
- Travaux d'Electothérapie Gynécologique, par le Dr. G. Apostoli. Paris: Societé d'Éditions Scientifiques. 1894.
- On Preservation of Health in India, by Sir J. Fayrer, F.R.S. London: Macmillan & Co. 1894. (1s.)
- The Theory and Practice of Medicine, by Frederick T. Roberts, M.D. Ninth Edition. London: H. K. Lewis. 1894. (21s.)
- Physiology for Beginners, by M. Foster, M.D., F.R.S., and Lewis E. Shore, M.A., M.D. London: Macmillan & Co. 1894. (2s. 6d.)
- A History of Epidemics in Britain, by Charles Creighton, M.A., M.D. Vol. II: From the Extinction of the Plague to the Present Time. Cambridge: At the University Press. 1894. (20s.)

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ORIGINAL ARTICLES.

PHYSIOLOGY AND PATHOLOGY AS ILLUSTRATED
BY MENSTRUATION AND GESTATION.¹

By ROBERT BARNES, M.D. LOND.

WHEN acknowledging the signal distinction conferred upon me by the Glasgow Obstetrical and Gynæcological Society in electing me its Honorary President, I hope it will not be considered inappropriate if I make it the occasion for offering a few remarks upon the place of gynæcology in the domain of medicine. The rapid growth of science transcends the power of the keenest philosopher to grasp it in its entirety. If this is true of science in its broadest sense, it is also true of the science of medicine. Indeed, the growth of every branch of science forces the growth of medicine. All branches of science are independent. Science in its broad sense is nature interpreted. All physical, biological, and metaphysical knowledge has its bearing upon medicine.

THE UNITY OF MEDICINE.

Recognising this comprehensive truth, and feeling how impossible it is for any one to grasp the whole science of medicine, it must never be forgotten that no part or sub-

¹ An inaugural address as Honorary President of the Glasgow Obstetrical and Gynæcological Society, delivered on Friday, 2nd November, 1894.

division of medicine can be rightly understood or developed unless it be studied in its relations to the rest. Each throws and receives light. Seen from this fundamental standpoint, there is, strictly speaking, no such thing as a specialty in medicine. He who gives exclusive attention to one department of medicine displays special ignorance, not alone of medicine in general, but also of the particular department he professes to cultivate. In like manner the professing "general physician," who specially neglects the study of any one branch of medicine, pretends to be that which he is not.

It does not follow, from these general reflections, that the subdivision of medicine now prevailing is altogether wrong, and ought to be abandoned. This subdivision is the necessary outcome of the evolution of medical science. The important thing to remember is that no one subdivision can be rightly understood if pursued as an isolated subject. To pursue a subdivision, or even two or more subdivisions in this spirit, altogether neglecting one or more, constitutes specialism. Every subdivision is an integral part of the whole. Just as there is no organ in the body which can exist independently, so there is no organ whose functions and trials can be effectively studied apart from the rest.

COLLEGES AND SCHOOL HOSPITALS FOSTER SPECIALISM.

These reflections may seem obvious and trite enough. Assuredly they are to you. But if we look around us, and observe the constitution of our colleges, hospitals, and schools, we cannot fail to see how grievously they are ignored in practice. I speak, of course, more especially of the state of things in London, the sphere of my personal experience. I know that in Scotland and in the provinces a more catholic spirit prevails; and that the studied neglect, or subordination of gynæcology, is less pronounced. The position of the gynæcologist in the metropolis is that of toleration rather than of inherent right. In the hospital schools the professor of obstetrics has long been hampered with restrictions at once galling to his self-respect and obstructive to the advance of science. He has not been permitted to cultivate or improve his own branch of medicine, still less to throw much needed light upon the rest.

GYNÆCOLOGY IS SURGICAL.

If there is one feature of gynæcology, including obstetrics, that is especially characteristic, it is that the treatment of

the difficulties that present themselves in practice is essentially surgical. And we know that in this surgical character we find the evidence and proof of the brilliant light that gynæcology throws upon general physiology and pathology.

The subjection of the gynæcological teacher to the special surgeons was in most hospitals so arbitrary, that he was not allowed to treat the cases which naturally fell under his care. The effective treatment, as we have just seen, is surgical, and the surgeons would not allow him to operate. Where any operative treatment was indicated, the gynæcologist was made to call in one of the surgical staff to perform it. I cannot resist citing one or two examples in illustration. In one of our large hospitals, the obstetric physician had diagnosed an abscess in the pelvis, pointing in the vaginal roof. The indication was to puncture. But this was surgery, so the surgeon of the week was called in. But how to do it puzzled him. He had no intra-vaginal diagnostic faculty. The difficulty was overcome by the obstetric physician adjusting and holding the canula to the spot, and then the surgeon pushed in the trocar! And we must suppose he thought he had honourably and usefully asserted the authority and dignity of surgery!

In the same hospital I was invited to witness a Cæsarian section. The obstetric physician was not allowed to carry out this obstetric operation. So it was done by a surgeon who, in a discussion on an obstetric question before a medical society, had "thanked God that he knew nothing of mid-wifery," provoking the keen and well-deserved rebuke of Robert Lee, that "if he was thankful for his ignorance he had much to be thankful for." Certainly his Cæsarian section would have been much better done had he known something of the art that he despised.

In another hospital a surgeon, rashly undertaking a Cæsarian section, had laid open the uterus; he seized the arm that presented, so making a transverse presentation, and, pulling upon it, dragged uterus and all out of the abdomen. But here his surgery failed. So the obstetric physician, who was not competent to practise surgery, took up the case. He brought out a foot, turned, and delivered in half a minute. This physician was Ramsbotham. I am confident that he would have opened abdomen and uterus better than the surgeon. The man who knew how to do the operation was manacled, and the man who did not know had to be guided by the man who did know.

So long as the obstetrice was debarred from surgery, he

could not advance even his own department. But now that he has achieved his emancipation, that barbarous practice of craniotomy is being reduced within narrower limits, controlled by the Cæsarian section, under the guidance greatly of Professor Cameron.

Another remarkable illustration of the surgical bigotry which strives to ostracise gynæcology, is seen in the history and constitution of the London College of Surgeons. Under considerable pressure the Council of the College, consisting almost entirely of London hospital surgeons, was induced to acknowledge that a little knowledge of obstetrics might be a useful supplement to the qualification for its membership. In 1852 it instituted a Midwifery Board. But the diploma authenticated by this Board was not held to be essential for the membership. Still the *testamur* in obstetrics could only be obtained by those who had previously passed the examination for the membership. It was a supplementary, not an independent qualification. But the College had a charter empowering it to grant a special licence in midwifery, distinct from any surgical or medical qualification. The Council decided to act upon this power, and called upon the Board of Examiners in Obstetrics to examine and qualify "persons" to register and practise midwifery by virtue of a special licence. I refused to take part in this ignominious work. I resigned a seat no longer one of honour. My colleagues, Dr. Farre and Dr. Priestley, followed my example. And so the College went on without an Obstetric Board until 1881, when the principle I had all along contended for, of making obstetrics, like surgery and medicine, an integral part of the examination for the diplomas of Fellow and Member, was conceded.

The wisdom of the course adopted by me, in refusing to aid in the unnatural scheme of divorcing obstetrics from medicine and surgery, received emphatic recognition on the 24th March, 1884, when the Council, Fellows and Members, for the first time in the history of the College, met to deliberate on the Charters. The resolution to abrogate Section 17 of the Charter of the 15th Victoria was unanimously assented to by the Fellows and Members declaring it to be "inexpedient to continue the examinations for the licence in midwifery of the College."

By slow degrees the emancipation of the obstetric physicians in the general hospitals has been progressing. The first effective blow was struck by Tyler Smith, on the foundation of St. Mary's Hospital. He, being appointed obstetric

physician, was allowed to carry through, even to surgical treatment, the cases that by common consent fall under the domain of gynæcology. Some years later the same right was conceded to me at St. George's, and the spell has been broken at other hospitals more or less completely.

I have adverted to one factor in this unnatural disintegration of medicine—the constitution of the College of Surgeons. Side by side is seen another factor in the correlative constitution of the College of Physicians. This College is somewhat less illiberal. It would be strange, indeed, if an Institution which still, by an annual oration, acknowledges the sway of the mighty intellect of the immortal Harvey, could altogether ignore obstetrics. For had not the glory of the discovery of the circulation of the blood eclipsed every event in the history of medicine, it is certain that Harvey would be remembered as the most sagacious interpreter of the phenomena of gestation.

If the colleges had been founded, and had grown as the natural offspring of science, it is certain that their constitution and policy would have been different. In reality, their origin may be traced to the same spirit of protective policy prevailing in mediæval times, when the members of crafts united into guilds or companies. The barber-surgeons' company, out of which sprang the College of Surgeons, is a striking example of this. And I hope it is not libellous to suggest that a taint of the original spirit survives. Another example of the survival of the guilds is seen in the Apothecaries' Company.

POSITION OF UNIVERSITY OF LONDON.

These three companies, with strong corporate interests and prejudices, long stood in the way, obstructing the unification of medicine as established in the universities. London, the greatest capital in the world, until quite recently, had no university. And, when the University of London was founded, it had to fight against the jealousy of vested rights. For a long time the colleges favoured the old universities, resisting the claims of the new one, as intruding upon their domain. This feeling still exists in a modified degree. Undoubtedly, the University of London would have achieved a stronger and more honourable position had its graduates, working in Convocation, been animated by a more liberal and far-seeing policy. But a party, powerful in numbers, if not in the wisdom of its constituents, impressed

with an exaggerated notion of the significance of the degrees they had won, have strenuously resisted such reforms as would open the door more freely to others. Not reflecting that a degree is simply an academic title testifying to the attainment of a certain standard of education, fitting the holder to aspire to better things, they seem to regard it as a title of distinction stamping the possessors as superior beings. The true graduate is one who strives, by honest and useful work, to prove the purpose of education: to justify his degree by doing credit to the university which conferred it.

Happily, this party of stagnation is losing strength. Recent proceedings give hope that a more healthy and progressive policy will prevail, and that the University of London will before long realise the design of its founders to help the cause of true education by opening more freely the old gates of instruction, by stimulating the foundation of new schools of science and art, and of effecting the reintegration of medicine by bringing into one harmonious whole the parts into which it had been split by corporate interests. One natural issue of this reintegration ought to be that, as in France, the university will take the lead as the qualifying power.

RISE OF GYNÆCOLOGICAL SOCIETIES.

It may appear somewhat out of place to dwell upon the political state of medicine, speaking from the chair of a gynæcological society. But it is not difficult to prove that the institution and work of gynæcological societies are the direct outcome of the arbitrary disintegration of medicine brought about by the medical corporations. We may also see that the scientific and clinical work of these societies is tending effectively towards the reintegration of medicine.

One of the earliest gynæcological societies is the Obstetrical Society of London. This was designed and founded by Tyler Smith with the direct object of bringing gynæcology back into its due relation to medicine. His first idea was to establish a third college—a college of obstetrics—thus to complete the trinity of medicine ignored by the medical and surgical colleges and by the Medical and Chirurgical Societies of London. This work has been successfully taken up by other gynæcological societies; and I am very sure the Obstetrical and Gynæcological Society of Glasgow will hold a foremost place in the regeneration of medicine.

A striking evidence of the beneficial influence of the independent advance of gynæcology is seen in the recent

constitution of a conjoint Board of Examiners by the two Colleges. This Board affirms the unity of medicine by embracing in one qualification the three essential elements of medicine, surgery, and obstetrics.

GYNÆCOLOGICAL HOSPITALS.

Associated with the work of the gynæcological societies is that of the so-called special hospitals devoted to the study of the diseases of women. It is a remarkable fact that the pure lying-in hospitals, representing obstetrics proper, have contributed comparatively little to the restoration of gynæcology to its rightful place as an integral element of medicine. Of course, obstetrics is a branch of gynæcology, or it might more strictly be called the root or foundation of gynæcology. But, looking at obstetrics as an essentially physiological subject, its relations to general medicine and surgery were ignored or neglected until gynæcology, suppressed, as we have seen, in the general hospitals, was cultivated independently in the hospitals established to treat the diseases of women. Striking has been the advance of surgery since these hospitals have come into work. In all our great centres of population we now see one or more. Great reputations have been made through them.

MEDICINE SUBJECTIVE, SURGERY OBJECTIVE.

If we reflect upon the features that characterise medicine and surgery, we must recognise the leading fact that medicine is largely subjective, whilst surgery, including gynæcology, is mainly objective. And herein lies the explanation of the influence that recent gynæcology exerts upon general medicine and surgery. So long as gynæcology was represented by pure obstetrics, and what we may call pharmaceutical gynæcology, dictated by the surgeons of our general hospitals, so long was gynæcology chiefly subjective—that is, theoretical, dogmatic, and barren. But when all the resources of objective investigation and treatment were brought into action, then gynæcology not only became a real power in the relief of suffering women, but it enlightened many problems in general pathology; and advanced the knowledge and application of surgery in the general sense.

The objective opportunities of medicine arise from the effects of disease established; the origin, the early stages, too frequently elude observation, or are lost in the dark and fallacious records of history. Take, for example, diseases of

the heart. Some imperfect, indirect, clinical objective tests we have—those furnished by palpation, percussion, the ear, the sphygmograph, and the quasi-objective, but truly subjective symptoms. We cannot bring the heart itself, the seat of organic disease or physiological disturbance, under direct observation. Thus the imperfect objective revelations and the symptoms are liable to be variously interpreted according to the general knowledge and special bias of the physician—that is, the interpretation is essentially subjective. The same arguments apply with not less force to diseases of the lungs, liver, spleen, kidneys, and nervous system. In the case of the lungs, the liver, kidneys, and intestines, the physician has the additional opportunities of objective study by examining the secretions and excretions. But he can rarely get at the organ itself, the presumed seat of the disease, until the disease has done its worst; and then he appeals to that last resource of subjective research—cadaveric dissection. Interesting, instructive truly, as furnishing the last link of the chain of pathological processes in demonstrating the physical organic changes they have wrought, supplying important elements in the construction of pathological theories that may be applied to the relief of future patients.

How different are the conditions under which the gynecologist works! There are two other departments of medicine which are freely open to subjective observation—affections of the eye and of the skin. These organs are under direct ocular inspection; but the changes observed in them are commonly the result of changes in the internal organs, or of so-called constitutional disorders—that is, their interpretation is largely subjective.

The gynecologist goes direct to the organs which are the more immediate subjects of his study by touch and sight, aided by instruments. Some of these instruments, as the sound and speculum, extend the range of touch and sight. And where there is sufficient indication, exploratory incisions may lay bare to the eye the ovaries and abdominal organs. There is no doubt that abdominal surgery has been greatly extended, if not created, by the gynecologist. The liver, spleen, and kidneys have, of late years, like the ovaries and uterus, been brought under direct inspection and successful surgical treatment. Might one ask how far the progress of abdominal surgery has suggested or stimulated the recent wonderful achievements in cerebral surgery that have made the names of Macewen and Horsley famous?

Of course, we cannot contemplate or trace the modern

development of surgery without recognising the brilliant part that anæsthesia and antiseptics have played in facilitating operations, and in reducing the danger attending them—boons which science and humanity owe to Sir James Simpson and Sir Joseph Lister.

GESTATION AND PHYSIOLOGY: THE FORCES EVOKED BY GESTATION.

We may now turn our attention to the more strictly scientific aspect of our theme. If we search the entire range of medicine, we shall find no field of observation so rich in elementary fundamental matter as that which gestation presents. Gestation may truly be called the threshold of medicine. It is a direct physiological experiment, by which we may test the action, individual and reciprocal, of all the organs of the body under definite conditions.

Two leading impulses or forces are produced by gestation:—*First*, is the starting of exalted nervous and vascular tension, attended by certain changes in the blood. Under this force we may witness and study the rapid development of tissue, and general increase of glandular energy.

An event full of interest marks the end of this force, and ushers in the *second* force: that of absorption and lactation. This is hæmorrhage. The discharge of blood attending labour, and that which is known as the lochia, is strictly physiological. It is the first and immediate step in the restoration of the single circulation following the casting off of the embryo. By this discharge, the excess of circulating blood is got rid of. But this is not all. If the loss of blood exceed the physiological need, the force of absorption is accentuated; a vacuum force is added, which favours the sucking-in of any fluid from the genital canal, from the intestinal canal, and also of any fluid or aerial matter existing in, or brought to the lungs. This, then, is a prime factor in the production of puerperal septicæmia. In physiological degree, hæmorrhage and absorption lead to the healthy disposal of effete stuff. In pathological degree, they lead to empoisonment and organic changes which we will presently touch upon.

Under the force noted, the integrity of every tissue is on trial. A weak organ or constitution, hitherto working fairly, reveals its defects; and by its work shows the development of processes which, under ordinary circumstances, are regarded as pathological.

The observer puts a direct question to nature.

GESTATION AN EXPERIMENT IN PHYSIOLOGY.

The method of experiment, to which medicine owes so much, depends largely upon vivisection. Reflection will show that the observation of the pregnant woman is in many points analogous to vivisection. Nature provides the medical philosopher with a field of physiological observation rich beyond estimate, equivalent to, and in many ways superior to, the best artificial experiments, and suggesting the pursuit of this course of inquiry by systematic experiments on the lower animals during life, and by dissection at different stages of gestation. In this way we may hope to supplement and elucidate some questions which arise outside of the observations of women.

If we gather into one focus all the phenomena evoked by gestation, we cannot fail to be impressed by the marvellous transformation wrought in every part of the organism. Every drop of liquid, every cell, every fibre, every organ feels the new impulse. All are compelled to work together to carry out the work of reproduction. Every function is doubled in energy. Healthy gestation is marked by exact equilibrium between the wants of the two organisms. But, in truth, the imperious demands of the being which has taken possession of the mother often predominate, and the maternal organs, overtaxed, are overcome in the struggle. Transition from physiological action into pathological processes and changes of structure take place.

All the blood changes, all the modifications of secretion and excretion, all the nervous phenomena and structural changes are associated by one common bond. This granted, we may reasonably hope that if we can but get hold of one link in the chain, we shall have in hand the clue to the whole mystery: that the explanation of many physiological and pathological processes, at present imperfectly understood, may be discovered. So fixed is the law of unity and solidarity in nature, that to seize one point is to grasp the whole, just as in the famous reconstruction of the extinct animal from a single bone by the illustrious Cuvier.

The predominant force of the circulation during gestation being constructive and eccentric, disposes to exudation and hæmorrhage. The vascular tension is moderated by increased secretions, as of urine, saliva, and other mucous discharges. These failing to maintain the normal equilibrium, serous effusions into the serous cavities, cellular tissue, and even into the parenchyma of organs, and external hæmorrhages, chiefly

from the nose, lungs, stomach, and intestines, take place. Thus abortion may be averted, and when abortion occurs, this may also be regarded as a conservative event. These safety-routes failing, internal hæmorrhages into the structure of organs may occur, as into the brain, causing apoplexy. The lesson this teaches is clear and decisive: it is to relieve the "physiological plethora," in some cases by venesection—a proceeding too much neglected of late—or by bringing the pregnancy to an end. The same argument applies emphatically to the treatment of convulsions and some cases of mania.

Strictly associated with the maintenance of the physiological equilibrium is the action of the lungs and skin. In gestation there is a continual tendency to excess of carbonic acid, uric acid, and urea in the blood. The free exhalation of carbonic acid is of prime importance. The quantity of carbonic acid exhaled bears a direct relation to the strain upon the system. Andral and Gavarret found that at all ages beyond 8 years the exhalation is greater in males than in females. Nearly the same proportionate increase takes place in females up to puberty, when the quantity abruptly ceases to increase, and remains stationary so long as they continue to menstruate. When menstruation ceases, the exhalation of carbonic acid begins again to augment, and then again diminishes with the advance in years, as in men. Should menstruation temporarily cease at any time, the exhalation of carbonic acid immediately undergoes an increase, precisely as at the final cessation of menstruation. During pregnancy the exhalation increases in like manner.

There is here a wide field for experimental research. The varying conditions of women under menstruation and gestation lend opportunities for observation which can hardly be found in other subjects. It is certain also that the determination of the proportion of carbonic acid exhaled might be a valuable clinical aid to diagnosis, and yield useful therapeutical indications.

ALBUMINURIA, JAUNDICE, DIABETES, PHYSIOLOGICAL IN ORIGIN.

An instructive lesson may also be drawn from the direct observation of the mucous membrane of the vagina, vaginal portion, and rectum. This membrane reveals to the eye the action of extreme vascular tension upon the peripheral structures. We see deep congestion, epithelial desquamation, mucous exudation, and frequently prominence of the superficial

veins. Corresponding with this, we see the darkening areola and distension of the breast, and often secretion of milk. We may surely draw from what we thus see the conclusion that similar conditions are brought about in the mucous membranes that lie beyond our sight. This is certainly true of the kidney. We may see epithelial scales in the urine of pregnant women who had died of causes independent of albuminuria.

It is useful, in this connection, to insist upon the peripheral mucous membrane and skin congestion attending scarlatina. Many years ago¹ I described a form of leucorrhœa with epithelial exudations in children, the subjects of scarlatina and small-pox, and persisting after recovery from these fevers. Reflecting on these parallel conditions, we cannot fail to be impressed by the frequent occurrence of albuminuria in scarlatina, and the light thus thrown upon the origin of this affection. That it is an expression of high arterial tension is confirmed by the occasional presence of blood in the urine. This seems to show that the albumen comes direct from the blood by exudation. That exalted tension is the main factor and that organic change of tissue is not necessary is further proved by the fact that complete recovery commonly follows when the pregnancy and attendant high pressure come to an end. And further confirmation is seen in the establishment of persistent albuminuria and change of tissue, if the tension be sustained too long or be repeated. This is strangely neglected by the ordinary physician. We may search in vain the systematic works on medicine and special treatises on urinary affections for adequate perception of the genetic light derived from the history of pregnancy.

By strict analogical deduction and clinical control, we may in like manner explain the occurrence of jaundice and diabetes. These disorders arise and disappear with pregnancy, proving that they are not dependent for their origin upon change of structure. Of late years it has been recognised that diabetes is sometimes temporary, and this condition has been described as "physiological glycosuria." But this fact has long been known to those who have studied the phenomena of pregnancy. I have known several cases of women who had diabetes in every pregnancy, and only then. Its occurrence illustrates the trial of the system under the stress of high tension, and how the balance between the several secreting and excreting organs is disturbed.

It has been too hastily assumed that the fundamental cause of albuminuria, jaundice, and other disorders is inflammation.

¹ *Medical Gazette*, 1850, 1851.

Thus, albuminuria is often described as nephritis. Probably the albuminuria of scarlatina is not seldom dependent on nephritis. But the quick, almost sudden, disappearance of albumen in pregnancy, when the excessive vascular tension subsides, is enough to prove that it is not necessarily the result of inflammation, at least at its origin.

Associated with albuminuria, we not seldom see dropsy in the serous cavities and œdema in the cellular tissue, and the occurrence of eclampsia is not uncommon. Dropsy and œdema are evidence that the ordinary excretory organs are overpowered, and that the balance between endosmosis and exosmosis in the capillary system is lost. The struggle between absorption and tissue-feeding is too great. Hence there is transudation from the vessels under undue pressure. Effusion also takes place in the brain. I have noted distinct appearances of œdema in the brain in women who had succumbed under albuminuria and eclampsia. The action of empoisoned blood upon the exalted nervous tension may produce delirium, convulsions, and insanity. These disorders may be, in many cases, relieved by bleeding or abortion; and thus removing the cause of the exalted nervous and vascular tension, and restoring the force of absorption with a quickness that proves the sources and cause of the affection. This history indicates the route of research to be followed for causes in other diseases independent of gestation.

“PHYSIOLOGICAL PLETHORA.”

The most sensible changes wrought in the blood are—
increase of volume (which I have expressed as “physiological plethora”), increased coagulability due to increase of fibrin, and rapidity of circulation. These conditions, maintained within due physiological limits, work for the development of the embryo and the concurrent evolution of maternal structures. The growth of the uterus entails supply of new vessels and nerves. This was demonstrated by Robert Lee. With this there is enlargement of the heart—“physiological hypertrophy.” And I venture to assume, as a necessary coincidence, physiological hypertrophy of the nervous centres. This has not been proved by actual observation, like the growth of the heart. It is a problem offered for solution by dissection of animals killed at various stages of gestation.

From this history of “physiological plethora” and growth we may trace the evolution of tumours and of organic hyper-

trophy of the heart, and some cases of valvular disease and phlebectasia.

The origin, the constructive stage, pertain to gestation; but the transition into pathological change mostly sets in in the post-puerperal stage. Owing to constitutional fault, or causes interrupting the due course of involution, the work of metabolism, or conversion of the now superfluous tissue, and of absorption and elimination, is imperfectly performed. The redundant tissue remains, and forms the basis of hyperplasia, hypertrophy, or tumour.

GLANDULAR PHENOMENA.

Associated with exaltation of vascular and nervous tension we find exophthalmic goitre, Graves' disease, and arterio-capillary fibrosis. The origin and nature of exophthalmic goitre are very imperfectly understood by those who do not seek for light in the observation of gestation and menstruation. It is essentially a result of high arterial tension. Minor degrees of this affection, scarcely marked enough to be recognised, are not infrequent. We may see an allied condition, in the normal swelling of the thyroid in young women after marriage, described in classical language by Catullus. This swelling of the thyroid and exophthalmos sometimes occur independently of gestation, but almost invariably within the limits of ovarian activity. I have known it to arise under dysmenorrhœa, and to be checked or relieved when the causes of the dysmenorrhœa were removed. Thus we have two instructive lessons: (1) "*Curatio ostendit morbum*;" (2) menstruation is the simulacrum of gestation.

Allied to this affection of the thyroid is myxœdema. Upon this subject I can but glance. It is one example of the remarkable part that the ductless glands play in the physiology and pathology of gestation and menstruation. The whole glandular system is brought into action. The spleen is especially active during pregnancy, probably serving to maintain the balance between arterial and venous circulation. Concurrently with this simple mechanical regulating function, the spleen certainly is an agent in the process of metabolism, and so of qualifying the constitution of the blood. This is made manifest in leucocythemia, anæmia, and lymphadenoma.

The supra-renal capsules, again, in their connection with Addison's disease, challenge careful study in their relation to gestation and menstruation. The association with pigmentation is especially suggestive. Is the pigmentation of the breast,

abdomen, and face in pregnancy the work of the supra-renal capsules?

This subject suggests a passing reference to the recent application of preparations of the thyroid, pancreas, and other glands, as food, or by subcutaneous injection in myxœdema, in pernicious anæmia and other affections. The work of the glands during gestation, and the changes wrought in them, deserve to be studied in this connection. Physiology here opens a wide field for therapeutical research.

The lymphatic glands and vessels come into active work in regulating the arterial and venous circulations, and especially in the processes of effusion and absorption or osmosis, and in secretion and excretion.

BLOOD-CHANGES.

Embolism and thrombosis are two phenomena strikingly illustrated by the action of the blood in pregnancy. In excess of fibrin, the blood resembles the blood of inflammation. It "cups" when drawn, and so is prone to coagulate in the vessels. This occurs under various conditions, such as the presence of toxic matter. I have known it to occur, leading to gangrene of the legs, under the influence of strong emotion. One remarkable manifestation of vascular tension and hyper-fibrinated blood is seen in effusions and thrombosis in the eye. Liebreich has figured it. Maitland Ramsay¹ works out striking proofs of the light that may be drawn from the study of gynæcology. He says "that even an apparently sound eye is markedly influenced by the occurrence of menstruation." This observation emphasises the lesson that menstruation is the analogue of gestation.

This point is further illustrated in an interesting memoir on "Eye-Symptoms in Medical Diagnosis," by Dr. James Hinshelwood, in the *Glasgow Medical Journal* for September, 1894. He insists on the great importance of a systematic examination of the eye as an aid to diagnosis in all doubtful cases, and gives some striking examples in proof of his argument.

Admitting freely the value of this contention, we cannot, however, fail to see that this source of observation is but an extension of the methods of objective observation of established disease, that is, of the effects of disease. It throws little if any light upon etiology, or the ante-pathological stages.

Similar phenomena to those seen in gestation may be seen

¹ *Lancet*, 1893.

in a modified degree under the influence of menstruation. The production of phlebectasis is an effect more of intense vascular tension than of mechanical pressure upon the vessels in the pelvis.

NERVOUS DISORDERS—INSANITY.

The study of the nervous phenomena of pregnancy goes far to elucidate the pathology of some forms of nervous disease unconnected with pregnancy. There is, indeed, clinical and anatomical evidence to prove that various forms of convulsion, as epilepsy and chorea, depend greatly upon chronic hypertrophy or change of structure of the nervous centres. In my Lumleian Lectures, I insisted upon the fact that these affections might long lie dormant, unless evoked by accidental causes. And the most instructive examples of this are found in the history of pregnancy and menstruation. For instance, following on rheumatism or other primary cause, chorea is observed in childhood. It ceases under time and treatment, and is presumed to be cured. But when menstruation or pregnancy sets in, the chorea returns. So it is with malarial fever. Tertiary or quotidian paroxysms reappear years after apparent cure. Surely this implies a persistent alteration of structure in the nervous centres. Continued observation supplies confirmatory evidence. The pregnancy or menstruation the simulacrum of pregnancy over, the diastaltic nervous symptoms often subside, to be renewed when the peripheral excitement recurs.

And, again, another lesson of paramount importance is taught by this appeal to the study of physiology. Just as we have seen that albuminuria, diabetes, and other nervous disorders may be cured or averted by bringing pregnancy to an end, so we may find similar and other diseases persisting so long as these diseases are treated as essential morbid entities, are quickly relieved or cured by curing the associated causative disorders of the genital system. How often do we see hysteria, and even insanity long treated on general principles persist, and be promptly relieved when the provoking disorder of the sexual organs is removed? Thus, physiological science is the guide to therapeutics, and therapeutics, in its turn, confirms the truth of science. Here, again, we must recall the fact that, in addition to other toxic factors in the blood, there is often excess of carbonic acid and of uric acid and urea—a condition demanding special clinical inquiry, which may supply the therapeutical indications.

We know that the heart in some animals retains its contractile power for some minutes after death. So is the pregnant uterus endowed with inherent power of contraction. This may be due to reflex or diastaltic influence connected with the spinal cord, but certainly it is in a great measure self-dependent. The uterus may be seen to contract after death. I myself have seen it in cases of *post-mortem* Cæsarian section, and I have known the child to be expelled by *post-mortem* contractions. Harvey relates a case.

These facts are of deep physiological and pathological interest. They may throw light upon various nervous phenomena evoked during gestation, which are usually interpreted as evidence of the action of the great nerve-centres. Amongst the proper exercises of nerve-power is the regulation of muscular and mental action; but it may be that the brain and spinal cord do not exclusively act in the strange emotional and reflex disorders sometimes manifested in pregnancy. Here let us cite the experience of Harvey. "It seems to me," says the illustrious physiologist, "on deep investigation, that the throes of child-birth, just as sneezing, proceed from the motion and agitation of the whole body. I am acquainted with a young woman who, during labour, fell into so profound a state of coma, that no remedies had power to rouse her, nor was she, in fact, able to swallow. When called to her, finding that injections and other ordinary remedies had been employed in vain, I dipped a feather in a powerful sternutatory, and passed it up the nostrils. Although the stupor was so profound that she could not sneeze or be roused in any way, the effect was to excite convulsions throughout the body, beginning at the shoulders and descending to the lower extremities. As often as I employed the stimulus, the labour advanced until, at last, a strong and healthy child was born, without the consciousness of the mother, who still remained in a state of coma."

What can be more striking than this physiological and therapeutical experiment of the immortal Harvey? Let us follow his example. Did he not foreshadow the discovery of the reflex or diastaltic nervous force? Certainly there are no conditions under which this force can be more profitably studied than those which may be witnessed in pregnant animals.

Deafness.—A condition which I am disposed to class with nervous diseases is a form of deafness. I have seen cases of women in whom deafness set in with pregnancy, was

aggravated by succeeding pregnancies, and was relieved in the non-pregnant state. Menstruation sometimes produces analogous effects.

In this relation, we may say a word upon hysteria. Many who neglect the study of gynæcology contend that this affection is independent of the uterus, and thence dispute the propriety of the term. They may be to some extent right; but they altogether overlook the influence of the ovaries. And, not subjecting uterus or ovaries to objective examination, they are hardly justified in affirming that hysteria is independent of these organs. At the same time, they cannot deny that the period of life which is marked by the occurrence of hysteria is that of ovario-uterine domination.

CLIMACTERIC DISORDERS.

The period of transition from ovario-uterine life to the epoch of sexual decrepitude is rarely effected without some nervous disturbance, in some cases amounting to absolute insanity. An error into which many alienists fall is to look upon cases which might strictly be considered examples of climacteric nervous disturbance as really dependent upon disease of the nervous centres. Under this error many women are secluded as lunatics who are in reality going through an epoch of strained physiological trial, and who are thus placed in imminent danger of drifting into the domain of pathology.

I must not trespass upon your indulgence by referring at length to the light thrown upon the origin and essence of convulsions and some forms of insanity by the study of gestation. Convulsions occurring with or without albuminuria is commonly the result of high nervous and vascular tension. Here I cannot avoid citing again experiments shown me by Marshall Hall, for two reasons—first, because they prove that convulsions do not necessarily depend upon organic change in the nervous system, but upon intense diastaltic irritability; and, secondly, because they point emphatically to the principle of treatment. He introduced, by subcutaneous injection, a minute dose of strychnine into a frog. So long as the animal was allowed to remain undisturbed there was no convulsion; but a shake of the table caused convulsion immediately. This experiment finds a singular parallel in the convulsion of gestation. So long as the pregnant woman prone to convulsion is kept perfectly quiet, physically and mentally—that

is, so long as there is no peripheral irritation to excite diastaltic action—the convulsion may be averted. This explains the use of chloroform. During artificial anæsthesia the nervous centres are deadened to peripheral irritation, convulsion is averted or shortened, and the subject is saved from the oftentimes injurious effect of shock.

In this connection, I am tempted to refer to the theory that vomiting, and various physical and emotional phenomena witnessed in pregnancy, are at once evidence of exalted nervous tension, and are really analogous to convulsion. It is Nature's way of moderating excess of tension, and thus of averting dangerous outbreaks. So much for the more purely physiological aspect of the subject.

I have discussed some of the relations of nervous diseases and insanity to gestation on other occasions. I will simply here repeat the strong opinion I have formed that many cases of mental disorder—ranging from excessive psychical, emotional, and diastaltic mobility to the graver forms of insanity—are due to functional disorder or disease of the ovario-uterine system. Although this truth has been more fairly recognised of late by some physicians who study mental diseases, there still remains the fact that women labouring under insanity do not receive the benefit of that first fundamental clinical law which directs interrogation of all the functions and all the organs. If this law were duly observed, not a few women certified as insane might be cured, and many more might be relieved of peripheral irritation, which, if not mainly causative of their insanity, is certainly an aggravating factor. Surely insane women have as just a claim to relief from the distress which arises from ovario-uterine disorder as have those whose intellect is sound. The logical corollary from this argument, which I have advanced elsewhere, is that skilled, thorough inquiry should be made into the bodily condition of women confined in asylums.

A form of insanity, of a different type from that which arises in pregnancy, occurs under the opposite conditions of puerpery and lactation. It is often the result of exhaustion, of defective nutritive power, and of deterioration of the blood from the ingestion of noxious elements. Weaning is necessary to spare the demand upon the nutritive function. In many cases, where there is no inherited or pre-existing affection of the nervous centres, recovery takes place. Here, again, it is of supreme importance not hastily to regard these subjects as lunatics, but rather as women passing through an epoch of overstrained physiological trial.

ABSORPTION, INVOLUTION, TUMOURS, FATTY AND CALCAREOUS PROCESSES.

Let us now sketch briefly the second great force evoked when gestation is accomplished—viz., the sudden fall of tension, and the substitution of absorption for construction. The tide turns from the periphery to the centre. It is true there is developed a new seat of peripheral activity in the breast for the secretion of milk; but this act is intimately associated with the process of absorption. Two leading objects are obtained by their harmonious action. The removal of the now effete tissue of the uterus, heart, and liver, and the return to the blood of effused fluids from the serous cavities and cellular tissue is the first object. The second is the secretion of milk. If the physiological process goes on smoothly, the redundant tissues undergo fatty metamorphosis. This converted matter is partly eliminated by secretion or excretion, and part goes to the formation of milk. Here we see a beautiful illustration of the old aphorism: "Nature does nothing in vain." Now, if any disturbance or defect in the course of lactation occur, the organs, losing their proper mode of relief, the process of fatty metamorphosis is arrested, involution or return to the ordinary condition is hindered, and the physiological hypertrophy passes into pathological hyperplasia. In this way, we may trace the origin and development of tumour, especially of the homologous type, and other structural alterations. Fatty metamorphosis and elimination give way to fatty degeneration. This is the history of many cases of fatty heart, fatty liver, and Bright's disease. And where this change does not take place there is a danger of persistent enlargement of the heart. I have traced many such cases following upon the failure of lactation.

In relation to fatty and calcareous action, that singular affection, *mollities ossium*, claims attention. It is a remarkable example of the work of menstruation and gestation, which deserves more precise investigation than it has hitherto received. Here, again, experiment comes to our aid. Dr. Fehling of Basle removed the ovaries nine times with the object of curing this disease. Eight of the cases recovered, and the progress was checked. He noticed unusual vascularity of the appendages, the arteries being enlarged as well as the veins.

This natural experiment has instructive application to the solution of the problem of fatty degeneration in sterile women, and even in man. It applies also to calcareous degeneration.

In close connection with the subject, I may also call attention to the history of fatty metamorphosis in the placenta, first described by me in 1851.

One remarkable fact in the history of fatty and calcareous degeneration is witnessed in the deposit of calcareous matter in the placenta, not necessarily as a result of disease, but rather of excessive, perhaps conservative, physiological action. The study of this condition supplies an important link in the history of calcareous deposits in the heart and blood-vessels. In pregnancy it is seen not only to be in the placenta, but also in the cranium. Rokitsky (1838), Ducrest (1844), observed osteophytes, or osseous neoplasms, or a tissue resembling bone outside the dura mater. This has been verified by many observers, myself amongst the number, since. These concretions suggest the hypothesis that they are a part of the excess of ossific material prepared for the building up of the fœtal skeleton. I have also advanced the opinion that they have some relation to the preparation of milk, in which fluid a considerable proportion of calcareous elements exists; and which is wanted to build up the infant's skeleton. Another lesson suggested by this study of the strong absorption-force following on delivery, especially when intensified by hæmorrhage, is the proneness to absorption of any noxious stuff that may come within the range of the absorbing organs. We are familiar with the sucking-in of decomposing matter lying in the uterus or vagina causing septicæmia. In like manner, observation, in hospitals especially, has proved how germs carried in the air may be absorbed by the lungs, and in this way also produce fever. Direct experiment has also shown me that poison may be absorbed through the unbroken skin.

Here I may offer an hypothesis, the result of some experience and much thought: that the germs of disease may be inhaled by the lungs or absorbed from the genital canal. It was at one time believed that gestation retarded the progress of phthisis. It may be occasionally true that phthisis does not make rapid advance during pregnancy, but it is certain, according to my observations, that it makes accelerated progress from the moment of parturition. How is this? Not only is the circulation invaded by the usual noxious stuff of puerpery and external sources, but it draws in the tubercular germs lying more or less dormant in the lungs.

Recently Dr. A. Guzzoni, of Turin (1890), has performed experiments in point. He introduced into the vagina of a guinea-pig a piece of tuberculous lung of a cow and a little

dried powder of phthisical expectoration. The animal presented in the left lung a tubercular nodule, and the foetus showed tubercle in the lungs, liver, and spleen. The propagation of syphilis is a familiar experience.

THERAPEUTICAL APPLICATION OF FORCES OF GESTATION.

Facts of this kind point forcibly to the control of the absorptive faculty to diminish the risk of absorbing or intensifying disease.

I have for many years turned the natural and intensified absorption-force to therapeutical profit by injecting iodine and other agents into the uterus and vagina. Thus I have seen hyperplasia and hypertrophic enlargements of the uterus dispersed. So active is the absorption process through this route, that the whole system is pervaded. The starch-test, applied to the skin and saliva, reveals the permeation of iodine.

I confidently believe that this method admits of further use in the treatment of other than uterine diseases. In many cases it may prove more practicable than subcutaneous injection. Thus we may chase a poison through the system, sending the antidote after it.

When considering the profit to be drawn from active absorption, and the means by which this force can be increased, we must not overlook the means for controlling that force, in keeping it within useful limits. Much may be done by supplying the system with proper nourishment; and sometimes we may fill the vacuum by transfusion.

ATROPHY.

Another phase in the history of absorption is seen when this process is carried to excess. Once started, it may pass the physiological bounds, and result in atrophy.

And here we are reminded that Nature is often deficient in the power to keep her forces within useful limits. Action once started, howsoever beneficial in design and character, is apt to run into extremes. This is seen in hæmorrhage, in arterial tension, in nervous tension, in metabolism—indeed, in all the functions of the body. It is here that the physician steps in to apply those means which enlightened judgment of the forces at work and clinical experience give him to control and guide the natural forces to the execution of their proper office.

CONCLUSIONS.

And now it is more than time to conclude. Let me resume the main points set forth. The political bearing of the argument tends to show how general and special medical science have suffered from the vicious subdivision of medicine into sections, represented by special colleges and societies, constituted and acting to the neglect of obstetrics and gynæcology.

Gestation and menstruation, regarded as a natural experiment, throws the clearest light upon the origin, essence, and treatment of many diseases. These points often elude recognition by the physician, and he is thence often driven to false conclusions as to etiology.

The observation of the diseases which arise during gestation suggests the hypothesis that the primary or initiative factors spring from the periphery of the system, and that the action and changes of structure of the central organs are responsive and secondary.

The study of pregnancy and puerpery brings before the observer the most striking examples (1) of the working of the great forces of exalted nervous and vascular tension in the production of new tissue; (2) of the converse force of active absorption; (3) of the influence of hæmorrhage; (4) of blood-changes and metabolism.

Those who neglect this study are prone to associate disordered functions and secretions with special organic change; whilst in truth all may begin with a common cause trying the whole system, the weaker organ breaking down under exaggerated physiological strain.

If physiology be the rational basis of pathology, may we not say that gestation, the most prolific source of physiological light, is the surest threshold of medicine?

Many of the problems mooted are subjects for inquiry. I do not pretend to have solved them. Enough if I can point out one source of light to guide the inquirer.

One explanation of, if not apology for, the neglect by the ordinary physician of what obstetrics can teach may lie in the fact that the opportunities of observation that fall in his way are rare. What is not sought is rarely found or appreciated. The more incumbent is it on the gynæcologist to cultivate in a broad spirit that source of light in which he moves, and so help to restore the solidarity of medicine.

Let me again express my thanks for the honour conferred upon me by this Society. That honour is enhanced by the consciousness that this graceful act binds me with you, under the inspiration of the *genius loci*, to do honour to the memory of William Hunter, by continuing that work of which he is one of the most illustrious architects.

CLINICAL MEMORANDA,
BEING SELECTED CASES FROM THE WARDS OF

DR. M'CALL ANDERSON,
Professor of Clinical Medicine in the University of Glasgow.

XI.

20. *Case of Tubercular Peritonitis*¹—*Recovery.*

A. H., æt. 9, was admitted to the Western Infirmary on 7th March, 1894, complaining of cough of three months', and pain in the abdomen of two weeks' duration.

His father and mother are alive and healthy. He has two brothers, of whom the younger is "very delicate." One male child was still-born. He has one sister, who is quite healthy.

The patient himself has always been "delicate." He had measles two years ago, and one year ago an attack of bronchitis, for which he was admitted to the Infirmary. He remained well, after dismissal, until three months previous to readmission, when he "caught cold." Since then he has been troubled with cough, and in the last three weeks he has been getting very thin. Two weeks before readmission he began to complain of severe pain in the lower part of the abdomen, and during that time he was subject to diarrhœa. Distension of the abdomen was also present. For the last four or five days of this time, he has suffered from an intermittent pain across the forehead, and been feverish at night.

State on Admission.—Temperature, 100·8°; pulse, 140; respirations, 40. He looks frail, and is distinctly anæmic. The chest is spare, the eyelashes long and black. He lies in bed with the legs drawn up. At night there are profuse perspirations. In the chest numerous scattered bronchitic râles were found, but at the apices there was nothing abnormal. The cardiac sounds were naturally rapid, but the heart was otherwise normal.

¹ Reporter, William R. Jack, M.D.

The abdomen was found to be uniformly distended. It was tender, and on palpation resistant. No enlargement of the glands, or tubercular thickening, could be made out, but he kept the abdominal muscles very tense during examination, and so hindered a certain conclusion. On percussion the flanks were found to be much duller than other parts of the abdomen. That part which was quite clear extended from the level of the umbilicus upwards over the gastric area. Change of position did not cause complete disappearance of the dullness in the flanks, although it became decidedly less. Probably, therefore, there was some effusion of lymph on the parietal peritoneum. A slight wave of fluctuation could be got on placing the hand on one flank and tapping the opposite flank.

Diarrhœa, though previously marked, was not a prominent feature of the case after admission.

The temperature was hectic in character, running up to 103° about midnight, and falling considerably towards morning.

On the 13th of March he was noted to be "much brighter," and on the 25th it was noted that the improvement had continued. His temperature was often above 100°, and when it was so, iced cloths were applied to the abdomen (for half an hour) every two hours, and with the most satisfactory result, both as regards the removal of the tenderness and the lowering of the temperature. He also slept and ate better, and was much more cheerful.

Thereafter, he remained several months in hospital. The temperature, up to 17th March, frequently ran up to 101°, and not seldom to 102° or over. From that date till 25th April, the average of morning and evening temperatures was about 99·4°, but on the latter day it rose in the evening to 100·6°. Until May 17th it remained below 100°, but then rose in the evening to 102·2°, and on the 25th, after an interval of temperatures below 100°, to 101·6°. The last temperature of 100° was noted on the evening of 5th June.

As a rule he had one motion per diem, and only once more than two, on 31st March, when there were three.

During March he was not weighed. The average weights thereafter were:—

	st.	lb.	oz.		st.	lb.	oz.
April, . . .	2	8	2½	July, . . .	2	8	13
May, . . .	2	7	13	August, . . .	2	10	12
June, . . .	2	7	10	Sept. 1, . . .	2	9	12

When last examined, the day before he was dismissed, it

was found that a considerable dulness remained in the flanks, and the abdomen was rather full, but the tenderness was quite gone, and the temperatures, as above mentioned, had been for some time about normal.

There was evidence of matting together of the coils of intestine.

The pulse-rate was 96. There was no cough. The respiration was quite quiet, and its rate normal.

The general condition was much improved.

The treatment adopted was as follows:—

1894.

March 9, . . . Fomentations to abdomen. Milk and limewater.
Tinct. of opii, 26 minims, as enema, when
required to check diarrhoea.

12. . . Antipyrin, 5 grs., when temperature over 100°.

„ 14, . . Iced cloths to abdomen when temperature over 100°. Atrop. sulph., $\frac{1}{320}$ gr. at night.

April 29, . . . Atrop. sulph., $\frac{1}{200}$ gr. as pill at bedtime.

June 23, . . . Pill stopped.

July 2, . . . Pill recommenced.

July 3, . . Quinæ sulph., 1 gr., t.i.d.

July 18, . . . Ol. morrhuae, 1 dr., t.i.d.p.c. To be much in open
air.

Aug. 7, . . Ol. morrhuae, 2 drs., t.i.d.

He was dismissed on 19th September, when his condition was as above stated.

21. Case of Bulbar Paralysis of Nine Months' Duration.¹

Mrs. J., aged 35, was admitted into Ward VII, on 24th September, 1894, complaining of difficulty of articulation for the last eight months.

Her parents are both dead, but the cause of death is unknown to her. Altogether she has had twelve children, two of whom died in infancy ; the other ten are alive and well. Last year she suffered from rheumatic pains in both shoulder joints. (There is also a rheumatic condition of the right temporo-malar articulation.)

The present illness began nine months ago with severe pain in the throat after catching cold, and along with this pain there was some difficulty in swallowing. Shortly after this the difficulty in speech commenced. She states that at the beginning of the illness there was some difficulty in protruding the tongue, but that it has now disappeared. The food has occasionally collected between the gum and cheek. There has

¹ Reporter, W. Ernest Thomson, M.A.

been no difficulty in swallowing after the food has reached the back of the mouth; indigestion has been troublesome for a number of years.

On examination there is nothing noteworthy regarding the lungs, heart, liver, or kidneys.

The face has a very peculiar expression in its lower part. In repose the lower lip tends somewhat to droop forwards, and the angles of the mouth are drawn downwards (the left side more than the right?) The patient generally has a handkerchief in her hand which she applies to the mouth, although she denies that saliva is constantly dribbling away. In repose she does not always require to support the lower lip, for, even when sitting up, the mouth can be kept closed. The lips can be pressed together, but the necessary movements in whistling or blowing out a candle cannot be performed. When speaking, she often assists the lips with the hand, the lower lip overlaps the upper (it must, however, be remarked that she is almost toothless), the naso-labial furrows become exceedingly well marked, the skin over the sides and alæ of the nose is thrown into long narrow wrinkles, the angles of the mouth are drawn down, and the skin under the chin is thrown into folds; the whole expression of the face being lachrymose except for the fact that the eyes give no indication of grief.

The speech is exceedingly deliberate and syllabic, but owing to the defective articulation it is very hard to understand. The following are the letters with which there is greatest difficulty: "c" ("psee"), "d," "g" ("dyee"), "h" ("apsch"), "j" ("dyay"), "l," "r" ("ah"), "v" ("bee"), "x" ("echs"), "z" ("yed").

The remaining letters she can articulate much better than would be supposed from the extremely defective articulation of words.

The tongue can be protruded, but is incapable of much voluntary movement in other directions. It can, however, be moved from side to side when protruded, and the tip can be the least bit raised. There is fibrillar tremor of the tongue, but atrophy is not apparent.

The arch of the palate is as nearly as possible symmetrical on each side. Paralysis of the palate is not apparent, but nevertheless the speech is distinctly nasal. On the other hand, fluids do not regurgitate through the nose. There is no defect of sensation of the palate or fauces.

Swallowing is apparently not very difficult for fluids, but solids always require assistance with fluid. She does not

(when watched at least) push the food backwards with the finger, but takes a sip of milk or water, some of which always dribbles from the mouth as she swallows. Food taken too quickly is apt "to go the wrong way."

Regarding the collection of food under the tongue and between the gum and cheek, the patient's answers are contradictory, but she has not been observed to use her finger in clearing away *débris* from these situations. She seems to admit having had to do so previously, but declares that it is not now necessary. She makes a similar statement regarding dribbling of saliva, yet she almost constantly has a handkerchief at hand, and generally near the mouth.

The only points which could be made out regarding reflexes are that the triceps, and flexor and extensor wrist reflexes, are perhaps a little exaggerated, especially on the left side; knee jerks active, but not definitely exaggerated, while there is a slight tendency to ankle clonus on the left side.

The larynx was examined by Dr. Walker Downie, and found practically normal. The ocular fundus was also found normal by Dr. Ernest Thomson.

Treatment has consisted of arsenic and strychnine, with a daily application of the continuous current to the spine. The digestion has improved since admission.

22. *Case of Wide-spread Erythematous Lupus Illustrating the Value of Iodide of Starch.*¹

Mrs. T., æt. 25, housewife, was admitted to the Western Infirmary on 2nd June, 1894, complaining of an affection of the skin of one year's duration. At the time of admission it involved the head, face, hands, feet, and the right side of the chest anteriorly.

The family history had no bearing upon the case.

The patient is a married woman, but has had no family. There have been no miscarriages.

For two years previous to the appearance of the eruption, she was in poorer health than usual, and was easily tired, but she had no very definite symptoms.

The disease first attacked the back of the ears, where the skin peeled off in small scales. The right hand was next affected. Here the disease began on the radial side of the back of the hand in round red spots, across the middle of which there was an appearance "like a cut." These increased in number and size, and gradually coalesced. The left hand was next attacked in the same way and in a similar situation,

¹ Reporter, William R. Jack, M.D.

and some spots appeared upon both forearms and both wrists. Shortly afterwards the face was involved in the eruption, which began in round red spots extending and coalescing at their margins, but here there was no fissuring. In the beginning of the year the feet were involved, the disease appearing first upon the heels, and then attacking the toes. A week before admission a few spots appeared upon the right breast, and have been rapidly followed by others.

On examination a number of patches of diseased tissue, with elliptical or crescentic margins, were to be seen in the situations above mentioned. They were of a livid red colour, with a distinctly raised edge, but there was but little induration or infiltration of the remainder of the patch, and there were no evidences of dilated, blocked up follicles. They were not itchy, but when she overheated herself she complained of a burning sensation in them. There has been considerable pain in the affected parts of the hands and feet, especially the latter. The eruption has always been dry. Its colour varies from time to time, being sometimes quite pale, and sometimes of a brighter red than usual.

The treatment, begun on 4th June, consisted in regulation of the bowels with ext. cascarae liq., and in the administration of iodide of starch. No local applications were made. The initial dose of the iodide was 1 dr. thrice daily, but it was gradually increased to 4 drs. thrice daily.

On 8th July, a marked improvement was observed. At first the hands, face, and feet alone improved, but after a time the improvement extended to the chest. The spots had lost their livid colour, and were quite pale. In the face, it was difficult to make out the line of demarcation between the healthy and the diseased skin, while the feet were so far recovered that the patient could walk freely, though she was quite unable to do so on entering the Infirmary. She said, too, that she felt much stronger. No fresh spots had appeared. The improvement began very shortly after administration of the iodide.

On the 20th of July, there was no visible affection of the face, and the margin of the former patches could with difficulty be felt. On the breast, their situation was shown only by a slight pigmentation. On the hands and feet, they still preserved a pale pinkish colour, with a slightly darker margin, which, however, was not elevated, and from which induration had disappeared. Across some of these elliptical patches a straight cicatrix was found to run, indicating the line of the former "cut."

She left a day or two afterwards.

This is a rare form of a not very common affection. It is rare in so far as, instead of being limited to the face, or face, ears, and hands, it was widely diffused over the body. But, although wide-spread, it had not a deep hold upon the surface; hence, when it disappeared, it left little or no cicatricial thinning of the skin. The influence of iodide of starch in strumous affections was brought under the notice of the profession by Professor McCall Anderson many years ago, but he has always held that it is only in exceptional cases, and when given in full and continuous doses, that it proves curative. And it is impossible to tell beforehand which cases are likely to yield, and which to resist it.

A CASE OF MYXŒDEMA SUCCESSFULLY TREATED WITH THYROID GLAND; RELAPSE AFTER CESSATION OF TREATMENT, AND DEATH FROM TUMOUR OF THE MEDIASTINUM.

By GEO. S. MIDDLETON, M.A., M.D.,
Physician to Glasgow Royal Infirmary.

A SHORT note of this case, as it presented itself in March, 1894, appeared in the *Glasgow Medical Journal* for June of the present year. No fuller record would have been deemed advisable but for the further development of the case.

Robert S., 59 years of age, was admitted into the Infirmary on 30th June, 1893. He had previously been an inmate in May, 1892, suffering from what was diagnosed as xeroderma, and was dismissed in June "improved." On being readmitted, he was suffering from the same affection of the skin, and he complained of general weakness, and of swelling of the face and legs. The following notes are from the ward journal:—

"6th July, 1893.—The facial expression is very striking. The forehead is marked by deep wrinkles. The eyelids are much swollen, and present a somewhat translucent pale appearance. Neither in the forehead, nor in the eyelids, is pitting distinctly obtained, although the sensation conveyed to the finger on pressure is such that well-marked pitting might be expected to be left. The nose is broad, and the cheeks are full, and both nose and cheeks present a slight amount of redness, which is entirely absent from the rest of

the face. The lower half of the face seems to protrude, so as to give a decidedly prognathous physiognomy. This is mainly due to thickening and eversion of the lower lip. The mouth is large and wide. While he sleeps, the mouth is open, and the tongue is seen to protrude, that organ being of large size and great thickness; but when he is awake, the tongue is kept well within the lips. The surface of the tongue is, perhaps, unduly cracked in front, and there is a slight amount of white fur on it. The lips are pale, and somewhat livid. The skin of the face is dry and scaly. The hair of the beard and moustache is somewhat scanty, but apparently not brittle; it is turning grey. The eyebrows and eyelashes seem normal. He has no teeth, due, he believes, to salivation with mercury in 1865, for the skin disease which has troubled him for more than thirty years. The teeth gradually dropped out, without pain, and the gums are now atrophied to such an extent as to resemble the condition met with in infancy. The skin of the scalp is dry and scurfy, and the hair on the head is very thin, grey, and dry, but apparently not brittle. The supra-clavicular spaces are not unduly full, and the skin over them is quite lax, and in folds. The thyroid gland seems diminished in size.

"The arms have never been swollen, but they and the hands present a very curious appearance. The hands cannot be described as spade-like. From the tips of the fingers to a few inches above the wrists they seem to be encased in gloves many sizes too large for them, great deep wrinkles being everywhere visible except on the palmar surfaces. This baggy skin has a very glazed appearance, somewhat like waxcloth, and the creases in it look as if they would become absolute cracks if the skin were pinched up. On pinching up the skin on the back of the hand a fold of almost one inch in breadth is readily obtained, consisting almost solely of skin—i.e., without any considerable thickness of subcutaneous tissue; it is quite translucent, and, instead of cracking, it becomes smooth and glazed, and feels decidedly soft. The skin on the palms is more or less leathery, and presents a few nodules of thick horny epidermis. The glazed condition of the skin extends nearly up to the elbows, at and above which the skin is dry, scurfy, and slightly suggestive of ichthyosis, a condition which is much more marked about the hips and calves of the legs.

"On admission there was slight œdema of the feet and legs, which has now all but disappeared. The skin on the front of the legs presents an appearance somewhat like that

on the back of the hands, but less marked. The feet are not broadened. Indurated, horny epidermis is abundant on the soles. The nails of both fingers and toes are somewhat stunted and brittle, and he recognises this as a change in their condition; some of the finger nails are so curved as to overlap the tips of the fingers. The feet are liable to become very cold, but the hands do not suffer in that way. The hair upon the body generally, and especially about the pubis, has largely disappeared.

"During the past year he has had occasional frontal headaches, never occipital; also severe giddiness, which has led to his frequently falling. He has had no prinkling or other abnormal sensations. Sensation in the finger-tips is delayed, but is fairly accurate. There is marked unsteadiness in his gait, which closely resembles that of ataxia, and he cannot stand steadily for any length of time with his eyes shut and his feet close together. He walks very slowly, with his chin bent upon his chest. When he is on his feet the hands, legs, and feet become of a brick-red colour. The knee-jerks appear to be deficient. In both hands the grasp is feeble, registering with the dynamometer (maximum 130) on the right 40, on the left 50. His memory, he is conscious, is by no means good, but there does not seem to be any abnormality of other mental processes. His sleep is much disturbed by dreams, and he tends to be very drowsy. He says he is more easily excited than he used to be, but it is quite evident that irritability is not a feature of his condition. He has apparently had hallucinations of both hearing and vision, but this is learned only on direct enquiry.

"His speech is very characteristic of myxœdema; it is very deliberate and somewhat thick or hoarse.¹ This character has been present for at least four or five years, but has become much aggravated during the past two years—i. e., he says, since he became toothless.

"Vision is good, except that spectacles are required for reading. The palpebral fissure is small; the pupils are normal; there is no arcus senilis. Hearing is somewhat

¹ In the case of a woman suffering from myxœdema, recently under my care, the whole of the soft palate was apparently deeply infiltrated with mucoid tissue, so that it appeared as two large swellings, between which the tip of the uvula was just visible. A similar infiltration affected the tissues in the inter-arytenoid space, over the arytenoids, and on the false vocal cords. All these infiltrations disappeared under treatment, and were presumably of the same nature as the subcutaneous thickening. The characteristic speech of the disease is in all probability in part due to such infiltration.

impaired, and there are noises in the ears, but these conditions are not in excess of what is frequent at his age. The sense of smell is normal. Taste is at times interfered with owing to a salt taste in the mouth. Swallowing is slow, and is not infrequently interrupted by choking.

"The heart is normal. He has never had any hæmorrhages. He has had bronchitis for the past two winters, and there are now some small moist râles at the bases of both lungs; but he has very little cough, and only a slight mucous expectoration. The bowels are generally regular. There is some delay in micturition.

"There is difficulty in getting a sufficiency of blood for examination. Under the microscope the appearance it presents is normal. The hæmoglobin is from 70 to 80 per cent of the normal; the red corpuscles number 80 per cent of the normal; and the white are not in excess.

"From early manhood he has suffered from the skin disease above described; it has never entirely left him, but it has been subject to severe exacerbations, and during these the feet and legs become swollen. About six years ago he had a rheumatic attack, and for two years past he has suffered from bronchitis. He never had any venereal disease. He has used stimulants freely, but only rarely to excess. For thirty-seven years prior to 1891 he worked as a labourer in Australia, and his work was always hard."

The case was regarded by myself and by the medical friends who saw it with me as one of myxœdema, complicated with skin disease of the nature of xeroderma (a diagnosis afterwards confirmed by many others at a meeting of the Medico-Chirurgical Society of Glasgow). The patient was accordingly put upon thyroid treatment. The preparation used was the tabloids of Burroughs, Wellcome & Co., and the dose ordered was two tabloids thrice daily. This was the first case of myxœdema that I had treated personally, and my inexperience led me to prescribe the remedy in too large a dose, as was soon apparent.

"12th July.—Ever since admission patient has expressed himself as feeling rather better; the giddiness, which was a prominent symptom, is much less. There is no longer any delay in micturition. The tabloids were commenced on 9th July; on the 10th and 11th diarrhoea was complained of, but only two motions are recorded for each of these days, and it may be mentioned that the same number occurred on the 8th. Yesterday patient said he did not feel so well as

he had done, and complained of pain over the malar bones and across the forehead, and of a feeling of drowsiness. His pulse, which on the 6th had been 46 per minute, numbered 68, and is the same to-day. He says he feels better again to-day, and headache and drowsiness are not present.

"13th July.—Complaining of severe frontal headache and drowsiness, in spite of the fact that he slept well last night. Bowels now tend to be constipated. Pulse increasing in rapidity, 72. Temperature, which prior to treatment was subnormal, is 99·8° F.

"17th July.—Complaining of loss of appetite, dryness of the mouth and thirst, and of burning sensation in the stomach. These symptoms have been present for the last two days. Slight sweating on the forehead was observed yesterday for the first time. Headache has been absent since last note.

"19th July.—Yesterday he complained so much of difficulty of breathing and general feeling of *malaise* that the dose of thyroid gland was reduced to three tabloids daily; and to-day, these symptoms being still marked, some vomiting of clear, green matter having taken place, and his pulse being 120 per minute and irregular, the administration of the thyroid tabloids was discontinued. This evening he expresses himself as feeling better and breathing more easily. There is marked flushing of the face, and the pulse is 100 per minute and quite regular. He had another attack of vomiting in the afternoon, and coincidently with it there was profuse sweating confined to the forehead.

"20th July.—Breathlessness and weakness still complained of. Some vomiting this morning, and also profuse sweating on the forehead. Pulse 104, and regular.

"21st July.—Feels better, breathing being easier. Pulse 112, and weak. There has again been profuse sweating on the forehead. The swelling of the face seems slightly reduced. The tongue also appears reduced in size. Thirst great and appetite poor. During the last few days swelling of the legs has somewhat increased, perhaps because he has been sitting a good deal on the side of his bed owing to breathlessness; the swelling pits distinctly on pressure.

"27th July.—Has improved somewhat since last note. Breathlessness much less troublesome. He sleeps better than he did. Œdema of legs again diminished. Still complains of thirst, but his appetite is better than it was. He also complains of soreness in the chest and dry cough. The pulse now ranges between 90 and 100. The temperature is normal.

"4th August.—Thyroid tabloids again ordered, one thrice

daily. Pulse now ranges between 70 and 80. Only slight thirst, and appetite pretty good. Has still a sore feeling in the chest, and a troublesome cough with very scanty spit. Œdema has almost disappeared. Complains of not feeling the ground under him when he walks. Facial expression, tongue, condition of skin, and speech, are the same as on admission, except that the face seems thinner, but this is in the cheeks, and not in the parts which were abnormally thickened. Sweating on the forehead has been very slight for the last few days. There is occasional water brash.

"16th August.—On returning after a month's absence, Dr. Middleton recognises a very great improvement in patient's appearance. The facial expression is very greatly altered; there is no longer any puffiness about the eyes or about the forehead, and, while the lower lip protrudes, it is much smaller in size, and not everted as it was. The skin of the face is quite supple. The hands are desquamating freely, the skin peeling off in large patches. The skin has practically lost the waxcloth appearance that it had, and is now quite soft and supple. A scurfy condition of the skin of the legs is also present, but probably not more marked than on admission. His personal impression is that he has improved greatly. He has now no breathlessness, his main complaint being weakness which prevents him from walking. There is still some œdema of the feet and of the lower portion of the back, and a few moist râles are audible at the bases of the lungs.

"25th September.—The temperature began to rise on the evening of the 23rd, and by the evening of the 24th it had reached 102·4° F. It has since fallen to normal. Coincidentally with the rise of temperature, a rash began to appear, affecting the trunk and limbs. At the outset, it appeared as small red papules, which afterwards coalesced into large spots (giving, in general, the appearance of a measles rash), and, still later, uniting over the back to form a continuous red blush (like scarlet). The skin is very itchy, and on the arms the rash resembles urticaria. The face is very little affected. Thyroid tabloids discontinued.

"7th October.—Since last note, there has been another rise of temperature. On 29th September 101·2° F. was registered, after which there was a gradual fall, so that the temperature has been normal for the past few days. Along with this feverish attack there was a recrudescence of the rash, with itching and burning of the skin. The skin is again becoming thick, loose, and wrinkled, tending towards the state it was in on admission. Tabloids resumed to-day.

"4th January, 1894.—Improvement has been continuous, and his appearance is much altered from what it was on admission. His voice is much improved. He is still a frail, feeble man, but he is much stronger than he was, and able to walk about. The dynamometer registers on the right 50, and on the left 65. His hair has grown very much thicker, and is quite soft, and darker than it was. He leaves to-day. He has not been taking any tabloids since 11th November."

Details as to treatment, weight, temperature, &c., may here be given:—

July 9 to July 17,	.	.	Six tabloids daily.
July 18,	.	.	Three tabloids.
July 19 to Aug. 6,	.	.	No tabloids.
Aug. 7 to Sep. 25,	.	.	Three tabloids daily.
Sep. 26 to Oct. 5,	.	.	No tabloids.
Oct. 6 to Nov. 11,	.	.	Three tabloids daily.

From the following notes of his weight at various times, it will be seen that he lost considerably under treatment, and that weight was regained when the treatment was discontinued:—

	st.	lb.		st.	lb.
July 6,	.	11	10	Nov. 28,	10 2
Sep. 12,	.	9	11	Dec. 18,	10 7
Oct. 3,	.	9	2	Jan. 4,	10 7
Oct. 26,	.	9	4	Feb. 14,	11 2
Nov. 11,	.	9	8		

The effect of the thyroid treatment on the temperature was to cause a slight rise, but not to the extent of pyrexia. Prior to treatment the temperature only twice reached 98·4° F.; it was generally below 98° F., and sometimes even below 97° F. Within three days after treatment was commenced 99° F. was recorded, and during the first period of treatment a maximum of 100° F. was noted on one occasion, while the minimum was 98° F., also only on one occasion. During the rest of the course of the case it may, speaking generally, be said that the temperature was always lower when tabloids were not being given, and that it then tended to fall below 98° F., while during the administration it varied slightly below or above 99° F. This, of course, is excluding the pyrexial periods associated with rash above noted.

The rise of the pulse-rate that occurred under treatment has been already alluded to. There was only one note of its rate before the tabloids were commenced—viz., 46; afterwards it

rose till it reached a maximum of 134 on 19th July. Thereafter it gradually fell to 72, and even 60, till treatment was resumed, when it immediately rose to 80 or more, tending to fall somewhat as he got accustomed to the tabloids. On each occasion on which treatment was resumed after cessation for a time there was a slight rise in the pulse-rate.

The effect on the urine will be seen from the following averages, the details being too numerous to be given here :—

		Average Quantity in Ounces.
5 days	prior to treatment (July 4 to 8),	62
7 "	on 6 tabloids daily (July 10 to 16),	39
7 "	without treatment (July 30 to Aug. 5),	21
7 "	on 3 tabloids daily (Aug. 8 to Aug. 14),	56
7 "	on 3 tabloids daily (Sep. 18 to Sep. 24),	88
7 "	without treatment (Sep. 29 to Oct. 5),	69
7 "	on 2 tabloids daily (Oct. 7 to 13),	95
7 "	on 2 tabloids daily (Nov. 4 to 10),	91
7 "	without treatment (Nov. 12 to 18),	103
7 "	without treatment (Dec. 28 to Jan. 3),	71

From this it would appear that in the excessive dose given at first the tabloids tended to diminish the quantity of urine, while, when they were given in moderate doses, they caused an increase in the quantity. The specific gravity was generally low, about 1,010, but rising to 1,016 or 1,018 or thereby, when the quantity diminished. The reaction was generally faintly acid, but occasionally alkaline or neutral. Sometimes albumen was present, generally in very small amount, at other times it was absent. Sugar was never present.

Urea was estimated only on eight occasions :—

Date.	Ounces.	Per Cent of Urea.	Total Urea in Grains.
July 5, . . .	63	1.1	303
" 13, . . .	42	1.4	257
" 23, . . .	47	4.5	925
Aug. 4, . . .	29	1.4	174
" 10, . . .	48	1.1	231
Sep. 7, . . .	100	1.0	437
" 25, . . .	97	1.1	467
Oct. 1, . . .	64	1.8	504

This is too small a basis for expressing an opinion as to the effect on urea, but the general impression it leaves on one is that the amount of urea was increased. The record of 925 grains corresponded with a period when no tabloids were being

given, and when the temperatures had been and were normal, while the 437, 467, and 504 grains were obtained when the temperature was febrile.¹

He was readmitted on 3rd March, 1894, having been gradually falling back since he left the ward; but, with the relapse, there was a fall in weight, for on 9th March he scaled only 9 st. 12 lb. His general condition was much the same as on his first admission, except that the degree of swelling was not so great. When put upon thyroid treatment he responded at once, so that a note on the 15th March bears that he had already greatly improved in appearance, and that his feet and legs, which had been swollen and shapeless, were resuming their normal outlines. Just as on his former admission, the administration of the tabloids was followed by a slight rise in the pulse and in the temperature. Two tabloids daily were given from 10th to 29th March, when they were discontinued, as he was suffering from sickness and vomiting, loss of appetite, and drowsiness, and his pulse had become very irregular, and had risen to 104, while his temperature had reached 100° F. After cessation of the remedy, the pulse became quite regular and fell to the seventies and eighties, and the temperature also became normal. Desquamation commenced on 14th April, and proceeded vigorously.

Early in April cough became somewhat troublesome, and, after a week or two of a purely mucous spit, the expectoration began to show traces of blood, at first rather scanty, but afterwards more copious and bright red. From that date it may be said that he ceased to progress, and gradually, with little periods of slight improvement, became more and more feeble. For a considerable time after the cough first attracted attention, and even after the hæmoptysis had been present for some time, there was nothing abnormal to be detected in the chest, except occasional sibilant and sonorous râles over both lungs. These, however, tended to linger in the right apex, and by-and-bye the respiratory murmur there became tubular, and small moist râles were heard; later still, dull percussion became marked in the right apex, both in front and behind. These changes, which extended over some three weeks, practically took place without any rise of temperature, except that for three days in the end of April there was a

¹ In the other case recently under treatment, while there was no decided increase in the quantity of urine, there was a very decided increase in the quantity of urea after treatment by thyroid tabloids.

daily record of at least one temperature close up to or just over 100° F. Tubercle bacilli were looked for, but were not found, and the question of a tumour of the lung was raised.

About the middle of June both elbows were discovered to be swollen. This mainly affected the inner aspect of the joints, so that the elbows presented a very peculiar angular appearance. The swelling extended a little both above and below the elbows, and was evidently in part œdematous, but the impression conveyed to the hand was that the bones were also involved. Within a week or ten days the swelling had become general over the arms and hands, commencing abruptly in the middle of the upper arm, and extending to the fingers; it was then soft and highly œdematous. The swelling was always greater on the right side; *e.g.*, measurement at elbows—right, 13 inches; left, 9½ inches (25th June). At this time there was also some swelling of the face, especially on the right side, and slight œdema of the chest wall. In the legs and feet swelling was also increasing, but it was much harder than in the arms. The œdema of the arms gradually extended to the axillæ, anæmia became pronounced, cough and breathlessness, with orthopnœa, were very troublesome, friction became audible over the right lung, and there was a considerable quantity of muco-purulent, brownish expectoration, and on 12th July, on rising out of bed, he suddenly expired.

During his second residence in hospital thyroid tabloids were administered as follows:—

March 10 to March 28,	. . . .	Two daily.
March 29 to April 13,	. . . .	None.
April 14 to April 28,	. . . .	One daily.
April 28 to June 5,	. . . .	None.
June 6 to June 13,	. . . .	One daily.
June 14 to June 18,	. . . .	Two daily.
June 19 to July 10,	. . . .	Three daily.

So far as the myxœdema was concerned, this treatment appeared to be as successful as on the previous occasion. Its primary effect on the temperature has been noted, but ultimately the temperature became rather irregular, sometimes rising to 101° F., or a few points higher. From the end of April the urine became very small in quantity, sometimes reaching as low as 8 or 10 ounces daily. A trace of albumen was sometimes present. The quantity of urea varied, as will be seen from the following notes:—

Date.	Ounces.	Urea, per cent.	Urea, in grains.
April 4,	72	1·4	443
" 7,	38	1·85	309
" 10,	47	1·5	310
" 11,	42	1·5	277
" 16,	78	1·1	377
" 20,	48	1·5	316
" 22,	56	1·15	283
" 26,	24	2·4	253
May 2,	10	2·35	103
" 4,	26	1·75	200
" 7,	16	1·8	126
" 11,	44	0·75	145
" 14,	52	0·85	194
" 17,	38	0·9	150
" 25,	14	2·3	141
June 1,	9	2·3	91
" 17,	8	1·0	35
" 24,	14	1·85	113
July 1,	24	0·9	85
" 8,	12	2·3	121

An examination of the body was made on 16th July by Dr. J. Lindsay Steven, whose report follows:—

"Emaciated body of large frame. There is very marked œdema of both hands and fore-arms; in the case of the right arm the œdema extends up to the shoulder, while in the left it has not reached higher than the elbow-joint. The right elbow measures in circumference $11\frac{7}{8}$ inches; the left, $10\frac{5}{8}$ inches. There is a general harshness and scaliness of the skin, but œdema of the lower extremities is only moderate in amount. The configuration of the hands and feet is coarse, even approaching the elephantine in character.

"The skull is very thin. The dura mater presents quite healthy appearances; on removing it, however, a considerable amount of cerebro-spinal fluid escapes. Generally, the brain tissue is very soft, so that it gives way under the gentlest handling. The base presents perfectly normal characters, as do also the vessels. The pituitary body is not increased in size, and presents no specially abnormal characters. The pineal gland is perhaps slightly enlarged, but not markedly so. In appearance it is transparent and somewhat gelatinous, having on the whole a normal character.

"The right pleural cavity contains a large quantity of clear serum (50 oz.), and the whole pleural surface, costal as well as parietal, is thickened, and opaque white in colour.

The lower lobe of the right lung is collapsed. At the lower margin of the upper lobe posteriorly, the organ is adherent to the chest wall at the level of the fourth and fifth ribs, and here there is a gangrenous cavity in the lung. The apex of this organ is in a condition of grey hepatisation, and sinks at once in water. On attention being directed to the root of this lung, a preternatural hardness is found surrounding it, extending to it from the bifurcation of the trachea and the superior vena cava. The left lung presents healthy characters.

"The pericardium contains about 4 oz. of serous fluid. Its parietal aspect is thickened all over. The surface of the heart is covered with a slightly thickened pericardium, which, on the posterior aspect of the right ventricle, has a very moderate fibrinous exudation. Aortic and pulmonary curtains are competent. Beyond considerable dilatation, due to its great flabbiness, the heart presents no abnormal features. In the first part of the aorta there are several atheromatous patches infiltrated with lime.

"There is a hard mass surrounding the superior vena cava, immediately above its entrance to the heart, and also the right bronchus; both of these structures, especially the superior vena cava, have had their lumina very seriously diminished. The mass projects in a nodulated fashion into the upper part of the pericardial cavity, where it has caused some matting of the upper part of the ascending aorta. The growth extends slightly into the lung tissue, and at one point, where the pericardium and the pleura have been adherent, a white nodule, the size of a hazel nut, has invaded the lung. The bronchial lymphatic glands are considerably enlarged, presenting a dense black colour.

"With the exception of a considerable passive engorgement, the liver and kidneys present healthy appearances. The supra-renal capsules are also normal. The mucous membrane of the stomach and the intestines presents perfectly healthy appearances. About two feet from the ileo-cæcal valve there is a peculiar spongy thickening of the mesentery, where it joins the bowel; the mucous membrane opposite to this point is covered with a peculiar greyish membrane.

"The thyroid gland is carefully examined. It is considerably smaller than usual, and much paler in colour.

"The right elbow-joint is laid open, and is found to be quite healthy. The great brachial vessels are also normal, the lumen of the vein being occupied by loose red clot. Beyond œdema nothing unusual is noted in the arm."

Various parts were hardened for further examination, and Dr. J. Lindsay Steven's final report is as follows:—

"The hard mass at the root of the right lung, upon being cut into and isolated, is found to have the characters of a small sarcomatous tumour, evidently of glandular origin. On microscopic examination its tissue presents a combined fibrous and spindle-celled structure, which would justify the term fibro-sarcoma. It is found to have involved the wall of the superior vena cava, just below the junction of the innominate veins, and has so contracted the lumen of the vein that an ordinary penholder can scarcely be passed through it. The right vagus is also buried in the tumour tissue, but the recurrent nerve is quite free. The right branch of the pulmonary artery has been very much contracted by the pressure of the growth. Immediately behind the ascending aorta two little nodules of the growth project from the surface of the pericardium. The bronchi going to the apex of the right lung have been involved; and, having regard to the results of dissection, there is little difficulty in understanding the occurrence of gangrenous excavation of the upper right lobe.

"On microscopic examination of the left lobe of the thyroid gland, the normal structure of that organ is found to have almost entirely disappeared, and has been replaced by a dense development of fibrous tissue. Here and there a few of the characteristic follicles of the thyroid are seen, but these are surrounded by a highly corpuscular interfollicular tissue which is evidently causing their rapid disappearance. The interior of the follicles is occupied by homogeneous gelatinous masses.

"Sections of the pituitary body reveal on the whole fairly normal characters, but at places it is thought that there is an undue development of spindle-celled tissue. Nothing particular is noted upon microscopic examination of the pineal gland."

The examination thus fully confirms the diagnosis, and accounts for the hæmoptysis and the œdema which were so marked terminal features of the case. There is nothing to show how long the mediastinal tumour had been in existence. It had probably begun in the glands long before the occurrence of hæmoptysis raised the question of the existence of a tumour in the lung, and it is not improbable that irritation, caused by its presence at the root of the lung, may have had something to do with the breathlessness and other symptoms which, on his first admission, were attributed to an overdose of the thyroid tabloids.

THE GLASGOW ROYAL INFIRMARY: REMINISCENCES.

OWING to the interest aroused by a paper in the September number, of which, though appearing anonymously, the author is well known to be Dr. Cowan, the editors have requested me to write a few additional notes.

In 1848 and 1849, I was surgeon's clerk under Mr. William Lyon; and medical clerk under Dr. William Thomson and Dr. MacGregor, whose characteristics are so graphically described in the paper referred to. With the two latter I served chiefly in the fever house, which was a separate building behind the "front house," now occupied as a part of the surgical department. It was the time of the typhus epidemic of 1848, and my colleague was the late Dr. M'Fie Smith, of Govan. We were witnesses of the visitation of that terrible malady, the routine treatment of which, in bad cases, was to shave the head, apply a fly blister, and give daily 3 or 4 oz. of whisky or 8 oz. of port wine. We were frequently called up in the night to attend to, and even wrestle with, persons in a state of maniacal delirium, till we got them into a strait jacket, which, at that date, was the way we restrained the movements of delirious patients.

In the early part of 1849, the great epidemic of cholera began, and for several weeks Smith and I had the charge of the patients, in addition to the fever. But as this soon proved to be beyond our power, two additional clerks were appointed—Mr. Jacob, and Dr. George Willis now of Monmouth, and for some years mayor of that borough. The memory of the appalling scenes haunts me yet. Two out of every three admitted, died within twenty-four hours, and many others a day or two after, during the earlier weeks. This is not the place to enter on treatment, but I am bound to say that, having seen the stimulant, the calomel, the opium, the castor oil, and the saline, all tried, I do not think one had more effect than another, in really bad cases. What we did notice was, that after a few weeks, when the disease had killed off the more susceptible subjects, it became less fatal, and I think that towards the end the recoveries were more frequent under the simple treatment of keeping the patient clean, dry warmth, and sips of milk.

My service as surgical clerk was in Wards 7, 8, and 11, with Mrs. Martin as head nurse—well known to all dressers long

after that, as she was nurse in my own accident ward, for many years after I was appointed clinical surgeon in 1860.

Mr. (afterwards Dr.) William Lyon, my chief, was a very able and expert surgeon, but his clinical lectures, which he was bound to give in his turn, were rather tiresome. He was a man of large experience, and every now and then most useful hints were given, but they were scattered through what was little more than a desultory commentary on cases in the ward. He was also a private lecturer on surgery, to small classes of extra-academic students, in the old lecture room in College Street, where, long before, John and Allan Burns, and Granville Sharp Pattison (of resurrection memory), gave lectures on anatomy and surgery to large classes. He had a large general practice, chiefly in the East End, having first resided in Parkhead, subsequently in Gallowgate, but a few years before this had migrated to what was then the West End doctors' quarter, near St. George's church. In those days no one practised surgery separately from other branches, and Dr. Laurie—who formerly had been surgeon to the Infirmary and physician to the cholera hospital at the same time—even when he became professor of surgery in the University, derived the principal part of his income from family visiting and house practice, chiefly medical, and up till a year or two before his death, when failing health compelled him to give it up, he attended midwifery cases. The only exception to that rule was my father, Dr. M. S. Buchanan, who devoted himself solely to teaching anatomy and surgical, chiefly hospital, practice.

It is no wonder, then, that no one laid himself out to be a clinical surgeon, as now understood. Besides, his term of service in the clinical wards was limited to two years, after which he had to retire, and, if he wished re-appointment, had to wait some years before a vacancy occurred.

It was not an uncommon thing for a man to begin hospital service by obtaining an appointment as surgeon; then, after his first term of service, to take his M.D., if he had not it before, and after that to obtain an appointment to the medical wards, and become a hospital physician, though it made no difference in the actual practice of his profession outside of the hospital.

Dr. John Macfarlane, who was at first district surgeon to the poor of the city, then surgeon to the Infirmary, subsequently had the largest family practice in Glasgow. Though he never was hospital physician, he was professor of practice of medicine in the University from 1852 till 1862. He never wrote any papers on medical subjects; but he published a

volume of reports on surgical cases, from the preface of which book I quote a passage:—"These reports embrace but a very limited period. They include, however, the whole time of my attendance as junior and senior surgeon—viz., from 1st May to 1st August, 1826, when only one surgeon officiated, and the attendance was limited to three months; from 1st November, 1826, to 1st May, 1827, when the period was extended to six months, and two surgeons acted; and from 1st May, 1831, to 1st May, 1832, when the time of attendance was increased to one year, which arrangement is at present followed."

Mr. Robert Cowan was first surgeon, then took M.D., and became physician, and was appointed the first professor of medical jurisprudence in the University in 1839.

Mr. Robert Perry was first surgeon, then took M.D., then was appointed physician, and ultimately became the leading authority on fevers in Glasgow.

Dr. Pagan was simultaneously surgeon to the Infirmary and professor of midwifery in the University.

A most humorous and racy paper by Dr. Richard Millar, on the airs and graces of a person arrogating to himself the dignity of a "pure" physician, will be found in the appendix to my father's *History of the Royal Infirmary*.

The practice of surgery as a specialty did not begin in Glasgow till 1860.

I well remember the day, in December, 1858, when I did my first public operation before the students. I was then one of the first assistant or dispensary surgeons—a new office. Mr. Watt, one of the acting surgeons, was ill, and I was appointed to act for him. Dr. McCall Anderson and Dr. James Dunlop were the clerks in the surgical wards. A man, whose nose had been destroyed by lupus, was admitted, and it was my duty to do rhinoplasty within a day or two—a trying ordeal for a first appearance—before the united students of the University and the Andersonian. I inwardly resolved that, if I acquitted myself to my own satisfaction and that of the students, I would adopt surgery as a specialty, as soon as I could get promotion to the wards.

In 1860, my father died, and I was appointed his successor as lecturer on anatomy in Anderson's University (as it was then called). The same year a vacancy occurred in the surgical wards, and, after a keen contest, I was elected; and from that time have practised surgery only. Also, in the same year, Mr. (now Sir) Joseph Lister was appointed professor of surgery in the University, and the year following another vacancy occurred in the surgical wards, and this time

he was elected. In the same year Dr. (afterwards Sir) George Macleod was appointed lecturer on surgery in Anderson's University, and he was also appointed assistant or dispensary surgeon. Although he continued to hold several lucrative appointments, which were more of a medical than surgical kind, his bent was always towards surgery; so that there were three of us simultaneously beginning surgical practice as the main business of our lives. How far the new departure has had the effect of raising the department of surgery from the position it held prior to 1860, it is for the profession to judge.

Owing to the growth of the community, and the facilities of railway and telegraphic communication, Glasgow has become a centre, where the great departments of medicine can be, more or less usefully, separated. But the introduction of too many specialisms is of doubtful advantage, especially if it removes them from the observation of students in the general hospitals. And as for us, the practitioners of the present day, I can say that, for all-round efficiency, professional appreciation, public recognition, and general status, all combined, no one can compare with A. D. Anderson, Lawrie, or John Macfarlane, as I remember them.

To go back to the older days. When I was a student there were two resident clerks for the medical, two for the surgical, and two for the fever wards. Each clerk paid board, which, in 1848, was £5 for eight months in the fever wards; £20 for eight months medical; and £20 for eight months surgical. Of colleagues during my residence, the only two who survive are Dr. Wallace and Dr. John Grieve. The clerks did the same duty as is now performed by the "resident assistants" (I prefer the old name, "clerk"); but they also did all the *post-mortem* examinations, in presence of their chiefs and the students.

Pathology in those days was in a very elementary stage, and the tissues were never, the fluids seldom, examined with the microscope. Histological pathology had not emerged from its infancy. Dr. Cowan, Dr. Grieve, Dr. Wallace, and I were the first students who had microscopes of our own, and we could not make much use of them. When I was in the class of physiology the microscope was never used. In 1850, when I became my father's demonstrator of anatomy, I used to give microscopical demonstrations of the normal tissues, on the Saturdays, for the first time, at all events to extra-mural students.

At the visit each clerk had an ink-bottle suspended from his coat breast-button, a pen behind his ear, and carried his

ward journal with him. The physicians always, and the surgeons usually, saw their instructions entered in the ward journals, and dictated prescriptions in full. The students could jot them down in their note-books, or copy them out of the journals. In this way they were taught practical therapeutics.

After the visit, the journals were sent to the laboratory, where the apothecary and his assistant (Bolus Major and Minor we called them) dispensed the medicines. The apothecary was allowed to take six pupils every three months. That was the way many of us learned practical pharmacy. Others attended in druggists' shops, during the summer vacation; but many of the extra-mural students, who came from England, Wales, and Ireland, had been, and still were, apprentices to apothecaries, with liberty to absent themselves, during the last two years of their indentures, in the winter session in order to attend classes. We, Infirmary pupils, learned the real practice of pharmacy on a large scale. We made the ordinary Infirmary mixtures, tinctures, pills, and powders in bulk; besides making up the prescriptions of the day.

In those days the Infirmary consisted of the present "front house," divided into the medical and surgical departments, and the fever house behind.

The staff consisted of four surgeons and four physicians, each appointed for four years, after which they retired, and were not re-eligible for a year. Only one was appointed each year, so there was a yearly vacancy; and sometimes it happened, as in the case of my father, Dr. Lawrie, and Dr. A. Buchanan, that they held the office for a considerable number of years, with the intervention of one or two years.

But the cycle of duty which these officers performed was most peculiar. A surgeon, when appointed, was for the first year "supernumerary." He attended the consultations and assisted at operations, and took duty for one of the acting men when absent. His second year he was dispensary "doctor." He saw all the out-patients, medical and surgical, and treated or prescribed for both. The third and fourth years he was acting surgeon, doing operations, and giving one clinical lecture weekly, his colleague giving a second. The students walked the wards of one, or both, or neither, as they pleased. Their attendance was certified by the *Superintendent*, if they "signed the album," once a month.

A physician, when appointed, was for the first year supernumerary, acting in place of any other who might be absent. His second year he was medical attendant on the patients

in the fever wards. His third and fourth years he had visiting and clinical duty in the medical wards, the same as the surgeons.

The hour of visit was 2 P.M., and frequently major operations were done on Sunday. In some of the city churches the precentor, before the first prayer, read out, "Remember in prayer a poor man about to undergo a dangerous operation;" but this was before my student days.

At the hour of visit the whole staff, acting and supernumerary, and all the six clerks, assembled in the large committee room above the present vestibule. On a tray were eight tumblers of milk, each with a biscuit for a cover. Most of the medical staff, who did not seem to have had time for luncheon, took their biscuit and milk, while they chatted on the news of the day and often chaffed each other. To us youngsters, the friendly intercourse with seniors, and conversation with men who were our teachers, made the first few minutes of "the visit" a thing to be remembered.

Sometimes a physician or surgeon, who had much private practice, was late of arriving, and occasionally did not come at all. There were no telegraphs in those days. On such occasions, when the students were kept waiting about the hall or stairs, symptoms of restlessness naturally arose, and sometimes developed into a little rowdiness, and perhaps friction between the two rival schools; but, as a rule, the utmost friendship and good feeling existed between them.

In those days the students were pretty equally divided between the University and the extra-academical school, or Anderson's University (now known as Anderson's College). Indeed, before Professor Allen Thomson came in 1848, the number of students taking classes in the Andersonian, for the Licence of the College of Surgeons of Edinburgh or London, and of the Apothecaries' Company, or the Faculty of Glasgow, exceeded considerably the students of the University. At that time the University professors of anatomy and chemistry had not been in their classrooms for many years, their places being taken by their assistants.

In those days it was an interesting thing to see the High Street above George Street and "the Bell of the brae" (as the steep ascent was called) shortly after 2 P.M. From the old College in High Street (now College Railway Station), a stream of students flowed up on the east side of the street, not one crossing to the west. From the Andersonian in George Street, a stream flowed along the north side, and turned up the west side of the High Street, not one crossing

over. It seemed to be a matter of *esprit de corps* for each school to keep itself completely apart from the other, to the very top of the street, till they reached the Infirmary. Going in at the entrance gate they got mixed up, and, when inside, fraternised so thoroughly that one could not distinguish a University from an Andersonian student, by any action or behaviour.

When I was a clerk and after, and even for a long time after I was one of the surgeons, there was far more cordiality, or, at all events, inter-communication, between the members of the staff than at present. Besides the daily meeting at the hour of visit (when consultations were held among the whole staff), if an urgent case requiring special attention was admitted after the visit hour, even during the night, the whole staff was summoned to meet at a specified hour, as early as possible after the admission of the patient. It was quite a common thing for all the four surgeons to go, and not unfrequently one or two of the physicians joined. This continued up to 1862, and, during the four years of my service before that, I have frequently obeyed the summons, when I was only dispensary surgeon, and many a time have I, in the small hours of the morning, walked back along Cathedral Street with four or five members of the staff.

Meeting so frequently, and comparing notes as to their cases, the members of the staff had often some competition and friendly rivalry as to the results of treatment and success of operations, and when there was a difference of opinion, it was pretty freely expressed, with considerable spirit, not to say force, to the great delight of the clerks who were present at the conferences. They were not so mealy-mouthed in those days, but there was more heartiness and kindly feeling after an explosion, or rather a cutting remark full of dry humour.

Dr. Ritchie was a man of most solemn demeanour; a very erudite physician, who read most thoughtful lectures, but so slowly that the students called him "prosy." He had a fad. He used a spirometer (a tin vessel about 3 feet high, like a gasometer) to gauge the breathing capacity of his patients. His clerk was Louis Foucart (son of an officer in Napoleon's army, who had, after Waterloo, settled in Glasgow as a fencing master). (In 1850 Dr. Foucart was in London, and was the man who picked up and attended to Sir Robert Peel, who had sustained a fracture of the clavicle, from having been thrown from his horse while riding up Constitution Hill.) Foucart was a tall, well-built man with a splendid development of chest. When Dr. Ritchie demonstrated the use of his spiro-

meter, he called on Louis to blow into it, when, with one breath, he raised the tin bell jar to the very top of the machine—thus exhibiting the maximum of chest capacity. This feat was always followed by rounds of applause.

When Dr. Ritchie's term of service was over he was succeeded by Dr. Easton. Easton was a very pompous man, but with much kindness of heart, and a great favourite with the students. When driving in his brougham, if he met a group of students, he used to sit up erect, give a splendid wave with his right hand, and a most regal bow; hence he was commonly called by the students "the Czar." He was quite a master of elocution and read most carefully prepared lectures, in which were, occasionally, quotations from Shakespeare to enliven the tedium of the subject.

Although he was extra-mural lecturer on *materia medica*, he was for many years the only "grinder" for medical examinations, and even when physician to the Infirmary he continued to "grind," until he was appointed professor of *materia medica* in the University.

The first day he entered on duty in the Infirmary, he had a large following of students, eager to be present at the first visit of the favourite lecturer. On opening the door of the ward he saw, on a table a little way off, the spirometer. Going towards it, the students stood round expecting to hear some new exposition of the uses of the instrument. Dr. Easton stood in the middle of the circle and remained silent for a little—then, slowly raising his right hand, pointed to the spirometer, and exclaimed in a most melodramatic manner, "Take away that bauble!" And the poor spirometer was never heard of again.

The first year I was a student of medicine anæsthesia was introduced. Indeed I was the first person in Scotland who was made insensible to pain by inhaling ether; an experiment I performed on myself in presence of my father. The following year Dr. Simpson (afterwards Sir James) substituted chloroform for ether. So that I never had the experience of seeing operations, except of a trifling kind, done without anæsthesia. But the surgeons under whom I was brought up, had all been accustomed to operate on patients conscious of pain, who lay like martyrs, or sometimes had to be held down, or even tied to the table. In these circumstances one of the essentials of a good operation was dexterity and rapidity, or "brilliancy" as it was called.

My father, who was an accomplished anatomist, and Dr. Lawrie were the students' *beau-ideal* of brilliant operators.

Now-a-days leisurely exactitude, and attention to the minutest details have taken the place of rapidity and brilliancy. I am not sure that the pendulum has not swung too far in the new direction, so as to put the element of time almost entirely out of consideration. Certainly the shorter the time a patient is allowed to be on the operating table, the less there will be of vital shock.

I cannot conclude without mentioning the name of James Brown, who was janitor from 1841 to 1865. Shrewd, observant, and of great good sense, he quietly and unobtrusively exercised a remarkable influence over the whole institution. A faithful servant, he was practically coadjutor to the superintendent; and, from his long experience of the details of internal management, his advice was frequently sought by the managers. Every one who was a resident in his time must remember his personality, his *bonhomie*, and the kindly advices and help he gave us during the first few weeks of our clerkship, and afterwards. A reminiscence of the Royal Infirmary would not be complete without including James Brown.

Many other incidents and anecdotes might be cited, but this paper has already exceeded the length I intended.

GEORGE BUCHANAN.

CORRESPONDENCE.

A SIDE LIGHT ON THE QUESTION OF ANÆSTHETICS.

To the Editors of the "Glasgow Medical Journal."

SIRS,—Though, with a wisdom at which few will cavil, the pages of the *Journal* are remarkable for the absence of "Letters to the Editor," I would crave your indulgence, and ask your assistance in bringing a medical and surgical difficulty to a more or less definite issue. In a large centre, where much has been done to encourage legitimate specialism, it, at first sight, is rather remarkable that we have not at our command the co-operation of an anæsthetist, "properly so called." While comparisons are odious, especially to those they strike, it would perhaps be difficult to find a medical centre of equal importance where no such assistance can be found, and the hardship falls alike upon physician, surgeon, and patient.

In a great many cases requiring anæsthesia, it will not be denied that the regular medical attendant is in a favourable position that no other can occupy, having a more or less intimate knowledge of the patient's physical condition, as well as his mode of life, and a preference expressed by the patient in this direction can only be listened to with a natural respect towards his wishes. There is, however, a considerable, possibly an increasing, number of physicians who are unwilling, or who even decline, to act as anæsthetists, and the difficulties in such a situation can only be appreciated by those who have experienced them. While it is neither the duty, nor perhaps the right, of anyone individually to offer suggestions, the matter is one which might receive some attention at the hands of the medical body collectively, as an eminently practical, if not an urgent question.—I am, Sirs, yours, &c.,

OSWALD FERGUS.

CURRENT TOPICS.

PRACTICAL PHYSIOLOGY IN THE UNIVERSITY OF GLASGOW.—With the aid of a munificent grant from the Bellahouston Trustees, who have funds for the promotion chiefly of the higher education in science in Glasgow, a room in the Physiological Department has now been fitted up for advanced teaching, largely upon the model of that in the Physiological Laboratory of the University of Oxford. The apparatus includes a water motor, which drives a horizontal steel spindle capable of being connected with a number of recording cylinders. There are ten complete sets of electrical and recording apparatus, so arranged that two students working together at each set can study experimentally the physiology of muscular contraction, nervous action, and the mechanism of heart and circulation. Special sets of apparatus for the physiology of the senses and of voice will also be provided.

The class of advanced practical physiology is specially designed for students preparing to graduate in science, whether taking the pass or the honours degree of B.Sc. There seems every probability of the new ordinances as regards science increasing the number of candidates in the Scottish universities for the degree of B.Sc., the standard of which is comparable with that of the honours school in physiology in Oxford, and to Part II of the natural science

examinations in Cambridge. This installation may be said to complete the equipment of the University of Glasgow, both as regards physiological teaching and the prosecution of research. The advanced class, which will meet during the winter session only, is conducted by Dr. D. Fraser Harris, B.Sc. (Lond.), the second assistant, under the superintendence of Professor M'Kendrick.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY COMPLIMENTARY DINNER TO DR. ROBERT BARNES, HONORARY PRESIDENT.—The Society entertained their Honorary President to dinner in the Windsor Hotel, on the evening of 2nd November. The President, Dr. G. A. Turner, occupied the chair. The attendance of Fellows was not so large as it should have been. Only twenty-five sat down to dinner, but the party was a very pleasant one. As Dr. Barnes was to give an address at 8:30, the toast list was necessarily a very limited one. After the usual loyal toasts, the President, in a few well chosen words, proposed the toast of the evening, "Our Guest." He spoke of Dr. Barnes' long and honourable career as a medical man, not only as an obstetrician, but also as a gynæcologist. Dr. Barnes' active professional life had begun long before any of those who were present had even begun their studies. The toast was enthusiastically responded to.

Dr. Barnes, in reply, thanked the Fellows of the Society for the honour they had conferred upon him, and said that that day had been one of the pleasantest in his long life. He had been present at the installation of the Lord Rector, and the enthusiasm displayed by the students had carried him back many years to the golden days of youth. He would always remember with pleasure his honorary presidentship of the Glasgow Obstetrical and Gynæcological Society. Drs. M. Black and Cullen contributed to the entertainment by singing some favourite songs, and the genial Professor of Midwifery warbled his "Wee bird cam' to oor ha' door," with his usual felicity of expression.

The Society afterwards met in the Faculty Hall, and Dr. Barnes delivered his address, which appears at p. 401. At the close, Dr. Grey, the oldest medical man present, moved a hearty vote of thanks, to which Dr. Barnes replied in a few words.

NEW DRUGS, FOODS, AND APPARATUS.—"*Tönnissteiner*," a *Natural Sparkling Mineral Water*.—We have pleasure in calling the attention of our readers to a new table water,

named as above, which is being introduced to this country by the British and Foreign Mineral Water Company. From an examination of the water, we can report that it is clear and sparkling, and has an agreeable saline taste. It is drawn from the Tönnissteiner Springs at Brohl on the Rhine, and should be useful in all cases where natural mineral waters are found to be of service.

Antitoxin.—We have received intimation from Messrs. Burroughs, Wellcome & Co., that they hoped to be able, by the end of November, to have a supply of this material.

Lactopeptine.—John M. Richards, the owner of this well known preparation, has issued to the medical profession a neat little pocket calendar made of aluminium. It is in the form of a coin, and is rather an interesting trinket.

VISITING LISTS.—With this season of the year, the question of visiting lists occupies the practitioners. As usual, we have received a number of specimens. *Wright's Improved Visiting List*, compiled by Robert Simpson, L.R.C.P., is a very good one, and has this year been improved. From Messrs. Burroughs, Wellcome & Co. we have received a copy of their well known and very serviceable list, and for further information as to it we refer our readers to our advertising sheets.

REVIEWS.

Diseases of Women and Uterine Therapeutics. By H. MACNAUGHTON-JONES, M.D., M.Ch., M.A.O. (Hon. Caus.). Sixth Edition. London: Baillière, Tindall & Cox. 1894.

IN many respects this book may be of use to the general practitioner, but as a text-book for the medical student it entirely misses the mark. The physician will find the remarks on the various drugs used in female genito-urinary affections, on massage, on foreign and home spas, and the illustrative cases throughout the book interesting and useful, but the author is not sufficiently clear and accurate in his statements of the first principles of modern gynæcology for the student beginning the study of this branch of medicine.

The chapters on the various affections of the Fallopian tubes and extra-uterine pregnancy are amongst the best. In the more directly surgical parts the book is fairly well up to

date, and the antiseptic precautions recommended, although not so thorough as some operators would desire, are still those in use with many surgeons of standing.

In the chapter where uterine hæmorrhage is taken up the causes are merely tabulated, and that somewhat carelessly, for no reference is made to hæmorrhage the result of retention of pieces of placental tissue, for example.

The author rightly recommends attempting manual replacement of the uterus in displacements before resorting to the sound, and yet the most common and useful bimanual method is not mentioned. Finally, in regard to the pathological descriptions in the text, the reader cannot help feeling that the writer enters these realms more from a sense of duty than from any capacity to act as an instructor.

Bèri-Bèri: its Etiology, Symptoms, Treatment, and Pathology, with an Appendix Containing a Detailed Clinical Account of Fifty-two Cases, and the Morbid Appearances seen in Nineteen Post-mortem Examinations, with Characteristic Illustrations of the Disease. By ARTHUR J. M. BENTLEY, M.D. Edinburgh and London; Young J. Pentland. 1893.

BÈRI-BÈRI is a disease which is not often seen in this country. It is well known to military surgeons and to medical men who have practised in the East. At home, in large seaport towns, it is occasionally met with, and within the last year or two a number of cases have been under observation in Glasgow. Although the disease has been known from early times (Bontius having written upon it in 1645), the essential nature and pathology of the affection have not yet been thoroughly elucidated. According to some authorities the name *bèri-bèri* means *great* weakness, and is derived from the Singalese word *bèri*, meaning weakness. It prevails "endemically in Ceylon, Japan, and India, especially on the Malabar Coast, and in the Northern Circars and in China, and over the whole Malayan Peninsula."

The present monograph was presented as the author's thesis for the degree of M.D. in the University of Edinburgh in 1889, and was awarded a gold medal. It contains a valuable and concise account of the etiology, symptoms, and pathology of the disease, as studied by one who has had experience of a large number of cases, and the book cannot fail to be of great service to those who desire to obtain a general knowledge of this somewhat obscure malady. The author

divides the disease into five varieties, which are named (1) the acute dropsical; (2) the atrophic; (3) the acute pernicious; (4) the spasmodic; and (5) the mixed. He regards the cause as a particulate organism probably similar to those of remittent and intermittent fevers, although he discusses in great detail the other opinions which have been advanced as to its causation. A good idea of the general clinical phenomena of the disease may be obtained from the following summary of the symptoms as given by Dr. Bentley:—"A non-febrile disease (apt to recur and undergo exacerbation) involving both sensory and motor functions, associated with a sensation of tingling numbness, anæsthesia, and cedema, with spasms and paralysis of the extensors of the left arm and muscles of the trunk, followed by atrophy of the muscles, and absence of reflexes (and, according to recent observers, with electrical changes), with no complication of the mental faculties or of the bladder and rectum, or trophic changes in the skin." The author does not agree with Sir Joseph Fayrer in thinking that béri-béri is possibly the same disease as the pernicious anæmia of Europe, and he does not think that it is contagious. He offers no opinion upon the histology of the disease, but to the naked eye the chief lesion seemed to be situated in the spinal cord and its membranes, which were generally much congested and sometimes the seat of fibrinous effusions. The book is illustrated by a number of characteristic photographs, from which it is seen that the gait of the patients recalls that of locomotor ataxy.

We have no space to go further into detail as to the contents of this interesting book, but we heartily recommend it to all who desire information on this important and obscure disease. A full account is given, with references, to the work of other observers, and the author's own cases are recorded with great care and minuteness in the appendix.

Clinique des Maladies du Système Nerveux (Hospice de la Salpêtrière): M. LE PROFESSEUR CHARCOT. *Leçons du Professeur, Mémoires, Notes et Observations* (1889-91). Tome II, 1893. Paris: Aux Bureaux du Progrès Médical.

WE have here a second series of papers founded upon work done in Charcot's policlinique at the Salpêtrière. They maintain the high order of excellence which we noticed in reviewing the first volume, published in 1892. M. Georges Guinon is again the editor, and he has himself contributed

quite a number of the articles, including one in which he gives statistics as to the number of patients attending the policlinique, and the method of dealing with them. The magnitude of the work may be judged from the fact that, in the nine months from February to November, 1891, over 1,900 new cases were entered, the average for each day of attendance being 52. Any thought that the examinations must thus necessarily be hurried is at once set aside by the statement that all cases at all complicated are directed to return in small groups to be thoroughly investigated by one of the indoor assistants. It is also to be noted that, besides other assistants, there are attached to the policlinique an ophthalmologist, an aurist and laryngologist, an electrician, a dispenser, and bath-attendants.

The thoroughness of the work published is quite in keeping with this completeness of organisation. As in the former volume, it includes quite a number of papers dealing with different aspects of hysteria, while, among the others, there are two on myopathic atrophy and two referring to epilepsy. One of the last named is a most interesting clinical lecture by Professor Charcot, delivered in May, 1891. In it he describes a case of Jacksonian epilepsy, in which, at the *post-mortem*, a localised tubercular lesion was found in the paracentral region, and he discusses the question as to why that should be a frequent site of such lesions.

MEETINGS OF SOCIETIES.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

SESSION 1894-95.

MEETING II.—9TH NOVEMBER, 1894.

The President, DR. HECTOR C. CAMERON, *in the Chair*.

I.—CHILD, AGED FIVE MONTHS, FROM WHOSE LIVER A DARNING NEEDLE, THREE INCHES LONG, WAS REMOVED.

BY DR. T. K. DALZIEL.

W. G., aged 5 months, was brought to the Sick Children's Dispensary on 2nd October, 1894, with a sinus at the right hypochondrium, which, according to the mother, had existed

for two months, and for which she knew no cause. Examined by Dr. Nicoll, the sinus was found to pass in the direction of the gall-bladder, and at a depth of about 2 inches the probe struck against something hard. The child was sent to hospital the same day.

Under chloroform, Dr. Dalziel enlarged the opening, and, on breaking down a small adhesion, the gall-bladder came into view, as also the general cavity of the peritoneum. Further manipulation revealed a small opening on the surface of the right lobe of the liver, up under the costal margin, and, finally, after some difficulty, a darning needle, $3\frac{1}{4}$ inches in length, was drawn out. It lay horizontally, and the point of it was inwards and towards the left. The wound was partly stitched, and stuffed with iodoform gauze.

The child made a satisfactory recovery, and was dismissed well on 28th October.

II.—CHILD, AGED TWO YEARS, ON WHOM NEPHRECTOMY WAS SUCCESSFULLY PERFORMED.

BY DR. T. K. DALZIEL.

D. M'K., æt. $2\frac{5}{12}$, was admitted on 26th September, 1894, to the Royal Hospital for Sick Children, Glasgow, with a history of tumour at the left side of abdomen, which had been first noticed by a doctor five months previously. At that date hæmaturia was observed, but not subsequently. The tumour had since increased very considerably in size, but the child's health had not deteriorated much.

Examination on admission revealed a large, somewhat irregular, movable tumour in the left flank, extending beyond the middle line. This was diagnosed by Dr. Dalziel as a renal tumour.

Operation.—Under chloroform, Dr. Dalziel opened the abdomen by an incision extending from the costal margin nearly to Poupart's ligament, in about the nipple line. The posterior layer of the peritoneum was incised, and the tumour shelled out, the pedicle being ligatured with silk. Some of the prevertebral glands were thought to be enlarged, but were not removed. Operation lasted twenty-seven minutes.

The child made an uninterrupted recovery, and was dismissed on 26th October, apparently quite well.

Dr. R. M. Buchanan, who had examined the tumour, reported as follows:—

"The specimen submitted for examination is a large tumour

involving the left kidney, the whole mass having a very remarkable resemblance in size and shape to the foetal head at full time. There is a surface of kidney tissue at one end of the tumour, representing about one half of the organ very much expanded, and presenting several nodular prominences of tumour growth. This forms the facial portion of the presentment. The other half of the kidney is replaced by a large, ovoid, semifluctuant tumour, the smooth fibrous covering of which is continuous with the renal capsule. On section the kidney surface mentioned is found to consist only of a mere rind of renal tissue enclosing several areas of yellowish-white new growth. The semifluctuant mass is surrounded by a dense fibrous capsule, and consists mainly of a number of cyst-like cavities, filled with very dark brown flaky fluid, and of a certain amount of intervening tumour tissue undergoing degeneration. In one of these cavities there is a mass of blood clot of a comparatively recent date. Microscopic examination of the tumour tissue reveals the structure of spindle-celled sarcoma. It is traversed by prominent strands of fibro-cellular tissue, similar to and continuous with the capsule of the tumour."

From the point of view of prognosis, Dr. Buchanan thought that the case would be an extremely interesting one to keep under observation. Statistics showed that cases, in which operation had been performed, usually died in from two to twelve months after operation, by recurrence. This was all the more remarkable considering the usually isolated nature of the tumour, and considering the fact that these tumours were said to be rarely associated with secondary extensions to other organs.

Dr. Rutherford asked as to the peritoneal relations of the enlarged kidney. Had it become pedunculated? or, if not, could it have been shelled out without opening the peritoneum? He had lately seen such a tumour in a child of 7 months, and had made up his mind to operate by a transverse lateral incision, practically across one half of the abdomen. Operation was declined by the parents.

Dr. Hector Cameron believed that the success in removing a large tumour from a child's abdomen depended almost entirely upon how quickly one could get it done. That was true of abdominal operations perhaps throughout, but what was true of the adult was doubly true of the child; in fact, it was about the only department of surgery in which pretty rapid operating was a matter of great consequence, and, in reality, rapid operating there meant freedom from adhesions.

He remembered having had under his care, as surgeon to the Children's Hospital, a case, hitherto unpublished, of solid ovarian tumour in a child under 3 years of age, with pubic hair, enlarged mammaræ, and all the appearances of precocious puberty. The case had been admitted into Dr. Finlayson's ward, and was under his observation before operation. The tumour had been so large that an incision from ensiform process to pubis had been necessary. Dr. Cameron had turned out the tumour quickly. There had been no adhesions. The pedicle had been a broad one. The collapse had been so extreme that the child had almost died on the table, and had died within twenty-four hours—purely of shock, vomiting being almost continuous after the operation. With a sarcoma of the kidney, in a young infant, where one had to ligature the pedicle (and he supposed it was ligatured as a whole, including nerves and ureter), the operation of removal was generally followed by very great shock, and that was why it was so very seldom successful. But Dr. Dalziel's completing it in twenty-seven minutes, there having been no serious delay, and the child apparently not having suffered from the very great shock that so usually followed, the case had ended successfully. Dr. Cameron thought that Dr. Dalziel might be congratulated very warmly on the result of the case. At the same time, from the appearance of the child and from the mother's story of pain at night, &c., he (Dr. Cameron) was not satisfied that there was not some disease there yet, and he was inclined to think that there was some ascitic fluid.

III.—A CASE OF LUPUS OF THE NOSE AND THROAT IN AN EARLY STAGE.

BY DR. WALKER DOWNIE.

The patient is a girl 14 years of age. Two years ago the nose became sore, and in the interval it has caused her more or less annoyance, by reason of partial blockage from swelling within the nose and from crusting of discharge around the right anterior naris.

On examination, the opening of the right naris is seen to be wider than the left, the result of loss of tissue (skin and mucous membrane) from former ulceration. About half an inch within the right nostril the septum is prominent, and the swelling is so marked as to seriously interfere with the passage of air through the right naris. If the swelling be closely examined, it will be found that, while there is increased thickness of the septal cartilage above, there is ulceration or

breaking down of the tissues at the lower and anterior part. There is a similar, though less prominent and less extensive, swelling of the septal cartilage in the left naris.

Then, if the palate be examined, the typical early lesion of lupus is seen. The surface of the soft palate towards the middle line, and the whole of the anterior surface of the uvula is rough and irregular, from the presence of small rounded deposits beneath the mucous membrane. There is no breach of surface—no ulceration. Lupus of the palate is rare, and is, in almost every case, secondary to lupus of the face. It is a distinctly chronic affection, and is remarkably devoid of pain; in this case no complaint has at any time been made of the condition of the palate.

As a factor in the etiology of lupus, it may be noted that this child has several enlarged glands in the neck, one of which (undoubtedly tubercular) has burst, and is now discharging, and that a brother has, I am informed by the medical adviser of the family, undergone several operations, at the hands of one of our hospital surgeons, for a tubercular affection in the neighbourhood of the hip-joint.

IV.—PAPER ON "TOBACCO AMBLYOPIA."

BY DR A. MAITLAND RAMSAY.

Dr. A. Maitland Ramsay read a paper upon "Tobacco Amblyopia." At the outset he referred to the common association of excessive indulgence in tobacco with that in alcohol, which rendered it difficult to give a reliable estimate of the relative frequency with which cases of pure "amblyopia nicotiana" occur. He then described in full a case which had been under his observation from 1888 to the present time, which illustrated clearly a fact he wished specially to emphasise, that what at first, in tobacco amblyopia, is only a functional disorder, or a circulatory (nutritional) disturbance, may, in the course of time, lead on to organic change, causing atrophy of the papillo-macular fibres. The prognosis, in most cases of tobacco amblyopia, he said was favourable, but where there was demonstrated contraction in the field of vision, or where the scotomata for the various colours were absolute, the prognosis should be correspondingly guarded.

Dr. *Hinshelwood*, after expressing the pleasure with which he had listened to Dr. Ramsay's interesting paper, said that, so far as his experience had gone, he was convinced that pipe-smoking was a very important factor in the causation of tobacco amblyopia; in other words, he was of opinion that

it was in those cases where the juice came into contact with the mucous membrane in large quantities that amblyopia was produced. It was agreed that tobacco amblyopia was most common in this country. England, however, was not the country in which there was most smoking. In the East, where a large proportion of the inhabitants seemed to have nothing to do from morning to night but smoke, and even the children smoked, tobacco amblyopia was comparatively unknown. Van Millingen, and others who had had large experience in the East, called attention to the fact that it was completely unknown in the case of those who smoked the *narghile* or *hookah*, i.e., who drew the smoke through water. A large number of them smoked excessively, and yet tobacco amblyopia was almost unknown among them. To him (Dr. Hinshelwood) that was an almost conclusive proof that the toxic substance must be present in the juice of the tobacco. Another point that confirmed him in his opinion was the fact that, from his own observations, he had found, without exception, that patients with tobacco amblyopia had been not only smokers, but dirty smokers. Being a smoker himself, and at one time having smoked excessively, he had taken some little interest in enquiring into the details of their smoking, asking, for example, to see their pipes. He had found that they were men who smoked their pipes as long as they could, and took a pride in "blackening a pipe." Such smokers necessarily got a very large quantity of the juice. Another point was that they smoked a bad quality of tobacco. He had never met with tobacco amblyopia in anyone who smoked good tobacco and was not a dirty smoker. The cases he had met with had been men who smoked cheap tobacco, strong "black twist," and the stronger varieties of "plug" tobacco. These kinds of tobacco contained a larger amount of juice, and were moist. Cut tobacco was drier, and had not the same amount of juice.

Referring to other etiological factors mentioned by Dr. Ramsay, Dr. Hinshelwood said that perhaps the most prominent was alcohol. He thought that two out of every three cases that he had seen had been men who drank excessively. Not so long ago he had seen at the Eye Infirmary a patient with tobacco amblyopia, who had smoked for about twenty years from 3 to 4 ounces of tobacco a week; but, on enquiring further, he had found that the man had also drunk about a bottle of whisky a day during that time. He had been employed in a distillery, and the whisky which he drank had been strong distillery whisky. That was an extreme case,

but certainly, in a large proportion of the cases, the fact remained that they took alcohol to excess. Probably the explanation was that the alcohol made the nervous system of the patient more vulnerable to the action of the poison. Besides, men who went to excess in one thing often went to excess in another. Dr. Hinshelwood had met with the other extreme; he had met with tobacco amblyopia in the teetotaler, so that it did not do to set down a man, who came with tobacco amblyopia, as a drinker. If one enquired, there was always some other factor besides tobacco. Dr. Ramsay had mentioned smoking on an empty stomach. Everyone who was in the habit of smoking knew that tobacco would affect him much more if he had taken no food for some hours before. He had found in one case that the patient had been excessively worried in one way and another, and had had little sleep, loss of appetite, and dyspeptic symptoms; and that then, although he had not been smoking more heavily than he had been for years, tobacco amblyopia had come on. So that other causes as well as alcohol no doubt played a very large part. His conclusion as regards smoking was that those who smoked good dry tobacco, and kept their pipes or mouth-pieces clean, might smoke large quantities of tobacco without becoming the subjects of tobacco amblyopia.

Dr. Ernest Thomson asked Dr. Ramsay whether he had found central colour scotoma after influenza. He had had a very interesting case, in which he had been unable to make a diagnosis as between influenza and tobacco amblyopia. The patient had had a visual acuity of $\frac{1}{12}$, with a central colour scotoma, and no restriction of the peripheral field either for coloured or white light. He had confessed to $2\frac{1}{2}$ ounces of black tobacco a week, and would not admit any more than that. Dr. Thomson had every reason to suppose that he was not a heavy drinker. He also had had an attack of influenza, from which he dated the commencement of the failure of his vision. The fact remained that on stopping the tobacco, and giving some iodide of potassium and nux vomica, the visual acuity came up to normal ($\frac{1}{1}$). Dr. Thomson had not seen him for a month, but he had left with his visual acuity perfect and his central colour vision absolutely returned; but, in contrast with Dr. Ramsay's case, yellow had been the colour to remain longest absent. Even when he could appreciate all his colours, a small piece of white paper held at 3 metres from him, he said, was transparent and like a piece of glass; eventually he had been able to distinguish between a piece of paper and a piece of glass. There had

been some changes about the optic nerve. It had been distinctly pale from the first, of course; but round about both nerves there had been disturbances of pigment between the nerve and the macula. Dr. Thomson had been unable to make up his mind whether the case was one of tobacco amblyopia or whether there was any possibility of its being post-influenzal.

Dr. Ramsay, in answer to a question by Dr. George Marshall, quoted Dr. Lauder Brunton as saying that the poisonous effects were due to the absorption of combustion products of the tobacco. Then, as to influenza, he had on three or four occasions seen cases of that disease followed by optic neuritis, probably retro-bulbar, but much more severe than those tobacco cases. He thought that in Dr. Thomson's case influenza had played the part of a determining cause, in weakening the nerves and allowing the tobacco to act upon them, rather than that of the actual cause of the disease.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

NERVOUS DISEASES AND INSANITY.

By DR. R. S. STEWART.

Treatment of Chronic Epilepsy. By Bondurant (*American Journal of Insanity*, July, 1894).—The conclusions at which this observer arrives are based upon results obtained by the use of various drugs; but the period of treatment is not sufficiently prolonged, extending only over thirty days, to permit deductions of much value. He summarises as follows:—

Borax, antipyrine, acetanilide, phenacetin, and many other alleged anti-epileptic agents are, save in rare cases, without influence over chronic epilepsy with insanity.

β -Naphthol is occasionally beneficial, but probably not more so than catharsis.

The bromides will postpone the occurrence of the convulsions, but in most cases do more harm than good.

In dealing with the maniacal attacks seclusion may be necessary. Sedatives should be applied rarely, if at all.

The best single remedy in the *status epilepticus* is blood-letting. Of drugs, the most valuable is chloral.

Increase of Insanity in Ireland. By Drapes (*Journal of Mental Science*, October, 1894).—The result of an examination of the statistics of lunacy is to show that while there is an undoubted increase of occurring insanity, as indicated by the records of first admissions, by far the largest part of the apparent increase in insanity generally is due to accumulation, and that the seeming preponderance of insanity in Ireland, as compared with England, is fictitious, and depends entirely upon the greater amount of

accumulation in Ireland, occasioned by the lower death-rate in that country, and (possibly) the lower rate of discharge of the unrecovered.

As a possible explanation of this increase of occurring insanity, it is pointed out that there has been an increase in deaths from diseases of the nervous system of late years, and that it may fairly be inferred that the increase of insanity is part and parcel of this general increase of diseases of the nervous system; that this condition of things may be largely attributed to the increased strain of modern life and chronic political interest; that the Celtic temperament lends itself more readily than that of other nationalities to disturbing influences; and that heredity, though not an increasing factor, is by far its most powerful predisposing cause. Alcohol is, if anything, a decreasing, not an increasing factor in the causation of insanity, and tea drinking in excess is credited with having to some extent an indirect effect. The writer admits that emigration has had some influence, but thinks its effects have been over-estimated.

The remedy for this ever-continuous increase lies in the direction of an increased knowledge of the laws of mental sanitation, comprising such broad principles as the avoidance of injudicious marriages, the pernicious effects of the abuse of narcotics and stimulants, and the adjustment of intellectual labour, especially in the case of children.

Increase of Insanity in Ireland. By Tuke (*Journal of Mental Science*, October, 1894).—Dr. Tuke admits the increase of occurring insanity, and mentions as possible contributory causes the influence exerted upon the feebler portion of the community by the worry and increased responsibility thrown upon them by the removal of a great mass of the healthiest and strongest section of the population, the hereditary transmission of feeble minds consequent upon marriages amongst the remaining enfeebled class of the community, agricultural depression, the greater consumption of alcohol, and impoverishment of diet.

Syphilis and General Paralysis. By Fournier (*Le Progrès Médical*, 3rd November, 1894).—An analysis based upon the statistics of twenty-seven observers gives an average of 50 per cent as the proportion of general paralytics in whom there was a history of syphilis. In one instance the proportion is as high as 90 per cent. Of 14 cases under 16 years of age, 13 were syphilitic. As to the part played by syphilis in relation to general paralysis, there are four possible views. It comes as the last factor on a soil prepared by alcoholism, over-pressure, nervous heredity; or it prepares the soil for the action of these causes; or it acts directly by its toxins on the nervous centres; or the action of the toxins, after attacking the skin and mucous membrane, is at a later period displaced.

Basophobia or Phobic Abasia in Hemiplegia (Posthemiplegic Hemineurasthenia). By Grasset (*The Medical Week*, 7th Sept., 1894).—This is a hitherto undescribed symptomatic form of neurasthenia associated with organic nervous affections. It occurred in a case of ordinary hemiplegia, and was characterised by inability to walk in a public place, the disability referable only to the paralysed leg, and associated with a veritable anguish. The symptom supervened long after the onset of the organic affection, and gradually increased, and is regarded as an evolvment of the fixed and sub-conscious idea of the inability to walk. The peculiarity of this case is that, though of the same nature as all other varieties of phobia described in connection with neurasthenia, the functional impotence caused by the phobia affects a function which is already changed—that is to say, walking already rendered difficult becomes impossible in consequence of a superadded neurosis. The case is regarded as one of ancient hemiplegia due to cerebral hæmorrhage which is incurable, and a consecutive neurasthenia in the form of phobic abasia in which there is a chance of successful treatment.

Necrotic or Neuropathic Gangrenous Trophoneurosis of the Extremities. By Lancereaux (*The Medical Week*, 29th June, 1894).—Under this designation are included those cases in which mortification only occurs. The chief characteristics are the existence for months or years of excruciating pain and burning sensation in a limb, the sudden appearance of phlyctenæ or necrotic patches on the extremities, the black and horny appearance of the affected parts, and the dry mode of separation.

Autocopic Trophoneurosis; Spontaneous Amputation of Limbs; Ainhum. By Lancereaux (*The Medical Week*, 5th October, 1894).—Under the term autocopic trophoneurosis are included those cases which are distinguished principally by the tendency to amputate fingers and toes, or even whole limbs. This, and the variety immediately described, are regarded as falling under the head of the vasotrophic neurosis, and as evidence of a special modification of the nervous system, the tendency to which is hereditary rather than acquired. The prognosis is always grave, and the only means of staying their progress is to treat the initial disturbance of the nervous system.

Ainhum (Dactylolysis Spontanea). By De Brun (*The Medical Week*, 28th September, 1894).—This is the description of a case occurring in a child of Semetic descent, and involving several toes of both feet. Like Lancereaux, he recognises the origin in an affection of the nervous system: but, unlike him, he does not regard intra-uterine amputation as having any affinity with the disease here described.

Electric Dermography in Exophthalmic Goitre.—Peryon and Noir describe a variety of dermatography not alluded to in the very complete study of this subject by Barthélemy. They have observed it in two patients, both of whom were suffering from exophthalmic goitre. They describe the phenomena thus:—When the patient is treated with static electricity, there appears at every point of the skin where a spark has been elicited a white, livid, anæmic spot, surrounded by a red, depressed areola. On the forehead, neck, chest, or upper limbs, the observer traces a figure by a succession of electrical sparks. Scarcely has a spark shone, when a white, elevated point, like one of the little eminences of a "goose-skin," makes its appearance. In twenty or thirty seconds a diffuse redness appears, and this becomes more marked during the next minute or so. The figure traced is thus reproduced in the form of a series of little white elevations on a diffuse red base, the whole persisting for four or five minutes.

One of the patients was a female, aged 22, with a highly neurotic family history. At the age of 4 she had an illness during which she did not eat or sleep for a fortnight. From that time till the age of 20 she had been in good health, though very nervous. Then headache, exophthalmos, giddiness, and leucorrhœa set in, together with general lassitude. She improved temporarily under static electrification, but soon relapsed, and was not again benefited by this form of electricity. When examined by the writers in July of this year, she was found to have marked exophthalmos, tachycardia, goitre, and choreiform movements of the neck and arms, together with Græfe's symptom. When she was put under treatment by static electricity, the phenomena which have been described manifested themselves. Apart from electricity, however, every attempt to produce dermatography failed. The continuous current was employed twice a week, the negative pole being placed at the angle of the lower jaw, and the positive pole alternately in front of the neck for two minutes, and in the precordial region for one minute. The skin became pale and slightly livid at the one pole, and at times developed an actual nettle rash; it simply became red at the other pole. In less than two months the patient had gained 10 lb. in weight, and her symptoms had undergone great amelioration, so that she was able to attend to her employment without getting tired. The vasomotor symptoms diminished in intensity proportionately to the other symptoms.

The writers believe that this case corroborates the views of certain other observers, who hold that galvanism is to be preferred to any other form of electricity in the treatment of Basedow's disease. With regard to this particular case, the static form was continued for the purpose of producing dermatography, but was understood to have no therapeutic effect.

The authors observed the same curious phenomena in another patient with exophthalmic goitre—a woman in the fifth or sixth month of pregnancy. In her, too, dermatography could not be induced by the ordinary methods. It is therefore supposed that electric dermatography may be added to the list of the vasomotor symptoms of Basedow's disease.—(*Progrès Medical*, 15th September, 1894.)—T. K. M.

Anatomical Changes in the Heart in Chronic Mental Diseases.—Strecker has compiled statistics on this subject on the basis of 1,000 autopsies. He finds that morbid states of the heart are more frequent in men than in women, and increase in frequency with the age of the individual. The heart is least frequently affected in cases of mental disturbance due to tumours or syphilitic disease of the brain. Then follow, in order, paralysis, epilepsy, the quiet forms of insanity, chronic alcoholism, paranoia with mania, paranoia with melancholia, senile dementia, and finally apoplexy (100 per cent).—(Noticed in *Deutsche Med.-Zeit.*, 23rd August, 1894.)—T. K. M.

M E D I C I N E.

By T. K. MONRO, M.A., M.B.

Connection Between Increase of Eosinophile Cells in the Blood and the Occurrence of Charcot's Crystals in the Fæces of Patients with Intestinal Parasites.—Bücklers, of Cologne, corroborates Leichtenstern's view that Charcot's crystals are present in the fæces in all cases where parasites are present in the intestines. In cases of worms where these crystals are discovered, a certain influence exercised by the parasites on the composition of the blood is shown by a more or less considerable increase of the eosinophile cells. This influence seems to be related to the number of crystals, because in severe cases the number of eosinophile corpuscles may amount to more than half the total number of leucocytes. Successful treatment for worms generally ensures the speedy disappearance of the crystals from the evacuations, while the number of eosinophile cells subsides only slowly to the normal. An examination of the fæces is, therefore, important in diagnosis, inasmuch as the absence of crystals indicates destruction of the parasites. Examination of the blood will, of course, not give such reliable results.—(*Deut. Med.-Zeit.*, 3rd September, 1894.)

Influence of Lesions on the Ability of Tissues to Fix Substances in Solution.—Charrin and Carnot have made investigations on this subject. When substances in solution are introduced into the living organism, they sometimes distribute themselves uniformly throughout the body; at other times they distribute themselves unequally. In the latter case they accumulate principally in the liver, but also in the brain. Apart from the influence of the seat of entrance into the body—a factor which is easily neutralised by using the method of intravenous injection, or by introducing the substance by way of the digestive tract—it is permissible to explain some of these facts by assuming the existence of chemical affinities between the dissolved substance and the parenchyma of the organ in which they become fixed. Pretty much the same applies to bacteria, but here it is more easy to understand that a microbe should fix itself, say, in the spleen or in the marrow

of bone. Each viscus is, in a certain sense, a special culture medium, and different parasites select different media in which to settle. It is, further, known that pre-existing local lesions attract, so to speak, the infinitely little. If, *e.g.*, the right kidney be slightly contused or cauterised, and bacilli be afterwards introduced into the auricular vein, it will be found, as a rule, that more organisms settle in the right than in the left kidney. The question arises whether the same can be predicated of dissolved substances.

The authors performed seven experiments on animals in Professor Bouchard's laboratory. They established some lesion in the animal's body, and then daily introduced a certain quantity of a solution of acetate of lead into its system. After death, the lead was found deposited at the seat or seats of lesion. Histological examination seemed to show that the metal arrived at the injured part in a state of solution, and not, as might have been supposed from facts previously known, in the form of granules contained within leucocytes. Indeed, an accumulation of leucocytes in the neighbourhood of an inflamed joint gave no appreciable reaction for lead. Observations such as these help to explain why urates should, under favourable circumstances, be deposited in the tissues of a joint which has received a blow; or why, in cases of general poisoning, those parts whose power of resistance is least suffer most; or why tuberculin and mallein produce their characteristic effects on the specific foci of tuberculosis and glanders. Possibly the salts of bismuth may be deposited in the same way on the intestinal ulcers in enteritis.—(*La France Médicale*, 31st August, 1894.)

Thrombosis of the Cerebral Sinuses in Chlorosis.—Kockel records two cases. The first patient was a girl, aged 19 years, who, after suffering only from headache for three days, became suddenly unconscious. When taken to hospital, she was in a state of profound coma; the pupils were unequal, and did not contract reflexly; respiration was irregular and intermittent; the temperature was raised. The limbs were motionless and flaccid; sensibility was diminished; the reflexes were increased. The patient died in less than twenty-four hours after becoming insensible. The autopsy revealed abundant effusion into the ventricles, together with a thrombus, which obliterated not only part of the transverse sinus in the neighbourhood of the corpora quadrigemina, but also the great vein of Galen.

The second patient was aged 17, and presented a similar clinical picture—headache, vomiting for forty-eight hours, then sudden insensibility. After death there was found thrombosis of the great vein of Galen. The clot extended into the straight sinus, and into the transverse sinus on both sides. There was, in addition, softening of the cerebral substance in the lateral and superior walls of the lateral ventricles, as well as of the most superficial layer of the basal ganglia. This softening was of a reddish colour, and was due to numerous small hæmorrhages.

The writer does not dogmatise on the question whether such cases are due to a true thrombosis or to a phlebitis from secondary infection.—(*Gazette Médicale de Paris*, 22nd September, 1894.)

Cases of Sudden Death from Bicycling.—L. H. Petit reports three cases in individuals suffering from heart disease:—

1. A man, *æt.* 65, had been learning for a month how to mount his machine; he fell dead into the arms of his teacher as he was dismounting.

2. A medical man, *æt.* 48, became very stout after an attack of typhoid fever, and took to bicycling to keep down his weight. He had never complained before of cardiac symptoms; but, after a course of several months of this form of exercise, he was suddenly seized with dyspnoea and great pain in the region of the heart. He was on his machine at the time, and was compelled to dismount. He sat down on a bank, and died in a few moments.

3. A member of a club died on his bicycle in the streets of Paris. His age was about 40, and it was ascertained that he had suffered from heart disease.

The writer therefore recommends persons who suffer from heart disease, and those who are in advanced life, to avoid the bicycle.—(*Gazette Médicale de Paris*, 22nd September, 1894.)

Case of Spina Bifida Occulta with Hypertrichosis Lumbalis (quoted in *Deutsche Med.-Zeit.*, 17th September, 1894).—Schou of Copenhagen records a case which has been under observation for the last six years. The patient is now 13 years of age, and the abnormality was first noticed when she was 7 or 8. At that time the spine began to get curved, and the scoliosis increased despite all treatment until recently, when it became stationary. The abnormal development of hair in the lumbar region is very striking. The skin here is brown from pigmentation, but is otherwise quite natural. The hypertrichosis involves an area as large as the hand, situate at the junction of the lumbar and sacral regions of the spine. The hairs are of a light blonde tint, and in the centre of the patch, where they are more than an inch long, are so thickly set as to conceal the skin almost completely; towards the periphery, however, they are shorter and more sparingly distributed. The normal situation of the fifth lumbar and upper sacral spinous processes is occupied by a fissure in the posterior wall of the spinal column so large as to admit the points of three fingers. There is no tenderness on pressure. The pelvis is asymmetrical, its right half being much elevated, so that in standing only the fore part of the right foot reaches the ground. A younger half-brother (born of the same father, the mothers being sisters) has a unilateral, congenital dislocation of the hip.

The writer states that, including the one just related, only nine cases of the kind have been published as yet (i.e., till May of this year). In one of the other cases a paralytic dislocation of the hip developed, and in another there was bilateral luxation.

Colour-Reactions of Sputum.—In the *Berl. Klin. Woch.* of last year, A. Schmidt published some investigations on this subject. He believed, for instance, that staining the sputum would sometimes give important aid in the diagnosis between pneumonia and other chest affections. Sometimes the rusty sputum is absent in pneumonia. Sometimes we meet with cases of bronchitis (especially in connection with valvular lesions), or hæmorrhagic infarction, or acute hæmorrhagic bronchitis, in which the sputum is thick and rusty. Such cases may be complicated with pleurisy. In such circumstances, according to Schmidt, a tenacious sputum, which stains red (? with Biondi's solution), is poor in mucin, and comes probably from the alveoli; if it stains bluish green, it contains much mucin, and comes from the bronchi.

Zenoni throws some doubt on the practical value of this test. He substitutes saffranin for Biondi's preparation, and claims that, in this way, the presence of the smallest amount of mucin can be demonstrated microscopically. Moreover, when Schmidt's method of examining the sputum in a test-tube is employed, the great number of cells that are present constitutes an important source of error, for they may actually impart to the contents of the tube a reddish colour. Staining by saffranin, however, may give considerable assistance in the differential diagnosis between pneumonia and bronchitis.—(*Deutsche Med.-Zeit.*, 20th September, 1891.)

Perforating Ulcer of the Mouth.—Letulle showed recently to the Société Médicale des Hôpitaux a tabetic patient with a perforating ulcer of the upper jaw. This was situated at the right posterior part of the alveolar border. The buccal cavity communicated through the aperture thus formed with the middle meatus of the nasal fossæ. Almost all the teeth had fallen out. The patient had had syphilis eighteen years before.—(*La France Médicale*, 27th July, 1894.)

Books, Pamphlets, &c., Received.

- Annual of the Universal Medical Sciences, Edited by Charles E. Sajous, M.D., and seventy Associate Editors. Illustrated with Chromo-lithographs, Diagrams, and Maps. Five Volumes. F. A. Davis Co., Publishers. London: F. J. Rebman. 1894.
- The Urine in Health and Disease, and Urinary Analysis, by D. Campbell Black, M.D. London: Ballière, Tindall & Cox. 1895. (7s. 6d.)
- Therapeutics: its Principles and Practice, by H. C. Wood, M.D., LL.D. The Ninth Edition of A Treatise on Therapeutics. London: Smith, Elder & Co. 1894. (18s.)
- Catechism Series: Physiology Parts VII and VIII. Edinburgh: E. & S. Livingstone.
- The Transactions of the Edinburgh Obstetrical Society. Vol. XIX. Session 1893-94. Edinburgh: Oliver & Boyd. 1894.
- The Vaccination Question, by Arthur Wollaston Hutton, M.A. London: Methven & Co. 1894. (1s. 6d.)
- The Disorders of Speech, by John Wylie, M.D., F.R.C.P. Ed. Edinburgh: Oliver & Boyd. 1894. (18s.)
- A Monograph on Diseases of the Breast, with Special Reference to Cancer, by W. Roger Williams, F.R.C.S. With 76 Figures. London: John Bale & Sons. 1894. (21s.)
- Dr. William Smellie and his Contemporaries, by John Glaister, M.D. Glasgow: James Maclehose & Sons. 1894. (10s. 6d.)
- Atlas of Clinical Medicine, by Byrom Bramwell, M.D. Vol. III, Part I. Edinburgh: T. & A. Constable. 1894.
- Syllabus of Lectures on Human Embryology, by Walter Porter Manton, M.D. Philadelphia: F. A. Davis Co. London: F. J. Rebman. 1894.
- Text-Book of Hygiene, by George H. Rohé, M.D. Third Edition. Philadelphia: F. A. Davis Co. London: F. J. Rebman. 1894. (17s.)
- Practical Ureanalysis and Urinary Diagnosis, by Charles W. Purdie, M.D. With Numerous Illustrations. Philadelphia: F. A. Davis Co. London: F. J. Rebman. 1894.
- Artificial Feeding in Infants, &c., by W. B. Cheadle, M.A., M.D. Third Edition. London: Smith, Elder & Co. 1894. (5s.)
- Diseases of the Upper Respiratory Tract, the Nose, Pharynx, and Larynx, by P. Watson Williams, M.D. Illustrated. Bristol: John Wright & Co. 1894. (8s. 6d.)
- Enlargement of the Prostate: its Treatment and Radical Cure, by C. W. Mansell Moullin, M.A., M.D. London: H. K. Lewis. 1894. (6s.)
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INDEX.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE—

Diseases of the Ear. J. Walker Downie, 155, 394.
 Diseases of the Eye. Freeland Fergus, 78, 312.
 Diseases of the Skin. A. Napier, 157, 393.
 Diseases of the Throat. J. Macintyre, 76, 393.
 Gynecology and Obstetrics. E. H. L. Oliphant, 74, 317.
 Materia Medica and Therapeutics. C. O. Hawthorne, 235.
 Medicine. T. K. Monro, 72, 152, 313, 467.
 Nervous Diseases and Insanity. R. S. Stewart, 234, 464.
 Physiology. Wm. Snodgrass, 312.
 Surgery. Henry Rutherford, 233.
 Acanthosis nigricans, 398.
 Acro-pathology of Jonathan Hutchinson. Geo. A. Middleton, 161.
 ADAM, JAMES.—Longevity and heart disease, 114.
 Alinlum, 466.
 Alcoholism and pauper insanity, 234.
 ALTHAUS, J.—On failure of brain power (*Review*), 44.
 Amblyopia, tobacco. A. Maitland Ramsay, 461.
 American Surgical Association—transactions (*Review*), 217.
 Anæmia, bone-marrow in pernicious, 236.
 Anæsthetics, a side light on. Oswald Fergus, 451.
 Anatomy of flat-foot. R. Kennedy, 198.
 surgical, of middle meningeal artery, 239.
 ANDERSON, A. M.—The condition of the bowel in typhoid fever after antiseptic treatment, 4.
 the period of incubation in typhoid, with notes of two cases under antiseptic treatment, 321.
 ANDERSON, T. M'CALL.—Clinical memoranda, 104, 424.
 diseases of the skin (*Review*), 296.
 ANDERSON, WM.—Disease of knee-joint, with distortion, treated partly by erosion and partly by excision, 27.
 Aneurysm rupturing into œsophagus. R. M. Buchanan, 377.
 Angina, follicular, etiology of, 76.
 pectoris, muscular cramp in relation with, 316.
 Antifebrin, ill effects of use of, 236.

Antipyrin, ill effects of use of, 236.
 Apoplexy in relation to temperature of body, 163.
 Appendix vermiform, successful removal of. H. C. Cameron, 143.
 Arsenic and pigmentation of skin, 154.
 Artery, coronary, of heart, stenosis of, 152.
 surgical anatomy of middle meningeal, 239.
 Arthritis, rheumatoid. Coats, 136.
 Asphyxia, and death of the heart in, 313.
 Astigmatism, operation for, 79.
 Australia, art of living in. P. G. Muskett (*Review*), 222.
 Auto-intoxication and skin diseases, 390.
 BARNES, ROBERT.—Physiology and pathology, as illustrated by menstruation and gestation, 401.
 Barony parish, lunatics in. J. Carswell, 346.
 Basophobia, 465.
 Beri-beri. A. M. Bentley (*Review*), 455.
 Berlin, gynecological clinics of. J. M. Kerr, 232.
 Medical Society—transactions (*Review*), 218.
 Bicycling, sudden death from, 468.
 Bladder, urinary, distension of, with retroversion of the uterus. William Gemmell, 274.
 rupture of. Coats, 301.
 Blood, oxidising power of, 312.
 Bone-marrow in pernicious anæmia, 236.
 Bowel, state of, in typhoid after antiseptic treatment. A. M. Anderson, 4.
 Bradycardia of convalescence, 152.
 Brain, failure of power of. J. Althaus (*Review*), 44.
 osseous tumour of. Donald Fraser, 380.
 primary sarcoma of ventricles, 234.
 Bright's disease, etiology and treatment of. J. T. M'Lachlan, 241.
 Bromide eruption, 391.
 Bronchi, syphilitic ulceration of. S. Gemmell and R. M. Buchanan, 107.
 BROWNE, LENOX.—Correspondence on malignant transformation of benign tumours, 29.
 BUCHANAN, GEO.—Lithotomy; supra-pubic; large calculus, 353.
 reminiscences of Glasgow Royal Infirmary, 443.
 BUCHANAN, R. M.—See Samson Gemmell, 107.
 Bulbar paralysis. T. M'Call Anderson, 426.
 Bierlow, H. R.—International system of electro-therapeutics (*Review*), 38.

- CALCULUS**, supra-pubic lithotomy for. Geo. Buchanan, 353.
- Calvarium** in circular insanity. L. R. Oswald, 61.
- Cancer**, electrolysis in rodent. Inglis-Parsons (*Review*), 214.
- Cape Colony**, insanity in, 234.
- Carbohydrates**, the physiology of. F. W. Pavy (*Review*), 286.
- Caries**, complicated by epithelioma. T. K. Dalsiel, 68.
- CARSWELL, JOHN**.—Annual report on certification of lunatics, Barony Parish, Glasgow; together with some remarks on the annual report of the General Board of Commissioners in Lunacy for Scotland, 346.
- Cells**, eosinophilic, associated with intestinal parasites, 467.
- Chemistry and medicine**. T. R. Marshall, 355.
- Childhood**, general paralysis of, 154.
- Chloraloe**, 237.
- Chlorosis**, thrombosis of cerebral sinuses in, 468.
- Colon**, malignant stricture of. D. Fraser, 147.
- CLARK, H. E.**—Kidney removed by lumbar nephrectomy, 382.
- Convalescence**, bradycardia of, 152.
- CORRESPONDENCE**—
- The malignant transformation of benign laryngeal tumours as a consequence of endolaryngeal operation—a rejoinder. Lennox Browne, 29.
- The treatment of diphtheria by excision of tonsils—a correction. Wm. Watson, 207.
- A side light on question of anaesthetics. Oswald Fergus, 451.
- COWAN, JOHN**.—Glasgow Royal Infirmary, 1847-51, 203.
- Cretinism**, sporadic, treated by thyroid. Jas. Finlayson, 130.
- Crystals**, Charcot's, in faeces, 467.
- CURRENT TOPICS**—
- Appointment of professor of pathology, 34.
- Eastern Medical Society's picnic, 34.
- Dr. John Macintyre, appointments, 35.
- Bibliography of diseases of children, 35.
- Sanitary Institute, 35.
- Eighth International Congress of Hygiene, 36.
- Eighth French Congress of Surgery, 36.
- Indian Medical Congress, 37.
- University pass lists, 115, 365.
- The International Ophthalmological Congress, 207.
- British Medical Association, 209.
- Royal Hospital for Sick Children appointments, 209.
- Pathological and Clinical Society, 280.
- Post-graduate course in pathology, 281.
- Wm. Alex. Greenhill, obituary notice, 281.
- The new chair of pathology, 363.
- Opening of medical schools, 363.
- Obstetrical and Gynecological Society, 364.
- Southern Medical Society, 364.
- Eastern Medical Society, 365.
- Practical physiology in University of Glasgow, 452.
- Obstetrical Society, dinner to Dr. Barnes, 453.
- New drugs, &c., 453.
- Visiting lists, 454.
- Cystitis** in child of 5. W. K. Hunter and G. H. Edington, 181.
- two cases of. A. G. Faulds, 267.
- DRAF-NUTISM**. H. Mygind (*Review*), 219.
- Derby, fifth report of asylum, 235.
- Dermography**, electric in exophthalmic goitre, 466.
- G. S. Middleton, 225.
- Diabetes** and the carbohydrates. Pavy (*Review*), 289.
- Diagnosis**, eye symptoms in. J. Hinshelwood, 183.
- of infantile scurvy, 316.
- of skin diseases, 157.
- of fetal hydrocephalus. T. W. Jenkins, 26.
- Duchenne's paralysis. T. M'Call Anderson, 106.
- Diphtheria**, diagnosis of, 393.
- prevention of, 394.
- prevention and treatment of. W. Watson, 7.
- removal of tonsils in. W. Watson, 7.
- serum treatment of. Kossel (*Review*), 399.
- Disease**, malignant, in displaced organs. H. C. Cameron, 309.
- DONKIN, H. BRYAN**.—Diseases of children (*Review*), 121.
- DOWNIE, J. WALKER**.—Mycosis tonsillaris benigna, 362.
- Dyspepsia**, common forms of, in women. Saundby (*Review*), 43.
- EAB**, furuncular abscess of external meatus, 156.
- morbid condition following piercing of lobules of, 156.
- primary affection of labyrinthine capsule, 155.
- Eczema**, treatment of, in infants, 399.
- of nipple. H. Rutherford, 67.
- Edinburgh hospital reports (*Review*), 215.
- Elbow-joint**, excision of, with cases. Duncan Macartney, 165.
- Electrolysis** in diseases of nose, 78.
- in rodent cancer. Inglis-Parsons (*Review*), 214.
- Electro-therapeutics** (*Review*), 33.
- Emphysema**, surgical, from fracture of larynx. G. S. Middleton, 343.
- Empyema**, double, with purulent mediastinitis. G. S. Middleton, 1.
- Encephalasthenia**, failure of brain power. Althaus (*Review*), 44.
- Endometritis**, treatment of. H. St. Clair Gray, 56.
- Enteric fever**, antiseptic treatment of. A. M. Anderson, 321.
- incubation of. A. M. Anderson, 321.
- state of bowels in, after antiseptic treatment. A. M. Anderson, 4.
- Enuresis**, nocturnal, treatment of, 237.
- Enterocoele vaginalis posterior**. W. L. Reid, 51.
- Epilepsy**, treatment of, 464.
- Epithelioma** in cavity of carious femur. T. K. Dalsiel, 68.
- involving metacarpal bone. L. R. Sutherland, 69.
- Etiology** of Bright's disease. J. T. M'Lauchlan, 241.
- Eye**, paralysis of superior rectus, 78.
- Eye symptoms** in medical diagnosis. James Hinshelwood, 183.
- FACE**, bilateral paralysis of. J. H. Canlaw, 300.
- Fat necrosis**, with pancreatic disease. G. S. Middleton, 99.

- FAULDS, A. G.—Two cases of cystitis, 267.
Femur, caries of, complicated by epithelioma.
T. K. Dalziel, 68.
recent fracture of. H. Rutherford, 60.
FRAGUS, OSWALD.—On anaesthetics, 451.
Fever, vasomotor phenomena of, 72.
Flat-foot, anatomy of. R. Kennedy, 198.
Fotus, early diagnosis of hydrocephalus in.
T. W. Jenkins, 26.
Foot, flat, anatomy of. R. Kennedy, 198.
Fracture of larynx with surgical empyema.
G. S. Middleton, 343.
FRASER, DONALD.—Osseous tumour of brain,
380.
GEMMELL, S., and R. M. BUCHANAN.—Case
of syphilitic ulceration of trachea and
bronchi, with fibroid induration and case-
ous (tubercular) nodules in basal parts of
lungs, enlargement of lymphatic glands,
and gummata in liver, 107.
GEMMELL, WILLIAM.—Case of distension of the
bladder with retroversion of uterus, 274.
Genito-urinary diseases. Ogilvie Will (*Review*),
46.
Gestation and menstruation. Robert Barnes,
401.
Gland, suppuration of submaxillary, causing
purulent mediastinitis. G. S. Middleton, 1.
Glasgow Royal Infirmary, reminiscences of.
George Buchanan, 443.
in 1847-51. C., 203.
Glaucoma, operation for, 79.
Goitre, exophthalmic, electric dermatography
in, 466.
Gymnastics, Central Institute of, Stockholm.
W. F. Somerville, 333.
Gynaecology, surgical. Robert Barnes, 402.
Johns Hopkins Hospital reports, vol. II
(*Review*), 49.
Gutta serena, treatment of, 397.
HAVELOCK, JOHN G.—Sequel of a spurious
pregnancy, 256.
Heart, congenital affections of. Carpenter
(*Review*), 213.
congenital disease of. G. S. Middleton, 130.
death of in asphyxia, 313.
disease and longevity. James Adam, 114.
disease, *Prunus Virginiana* in, 237.
in chronic mental disease, 467.
stenosis of coronary artery of; pulse eight
beats per minute, 152.
Heat of body and apoplexy, 153.
Hemiplegia, uræmic, 152.
HENDERSON, JANE B.—“*Lourdes*,” by Emilie
Zola, from a medical point of view (*Review*),
269.
HERMAN, ERNEST.—Difficult labour (*Review*),
48.
Hernia, its treatment. T. H. Manley (*Review*),
214.
HINSHELWOOD, JAS.—Eye symptoms in medi-
cal diagnosis, 188.
History of medicine. Withington (*Review*),
368.
Horn, cutaneous, of cheek. A. W. Russell, 188.
Hutchinson’s acro-pathology. G. S. Middleton,
161.
Hydatid disease. T. J. Davis (*Review*), 212.
Hydrocele of cord. A. E. Maylard, 382.
Hydrocephalus, early diagnosis of fetal. T.
W. Jenkins, 26.
Hygienics, its place in a medical journal.
W. Leslie Mackenzie, 275.
Hypertrichosis lumbalis with spina bifida
occulta, 469.
IDIOT, a type of, in children. R. M. Buchanan,
227.
Incubation period of enteric fever. A. M.
Anderson, 321.
Infants, scurvy of, 316.
Infirmary, Glasgow Royal: reminiscences of.
George Buchanan, 443.
in 1847-51. C., 203.
Intoxication, auto-, and skin diseases, 399.
Insanity, circular, calvarium in. L. R. Oswald,
60.
in Cape Colony, 234.
increase of in Ireland, 464.
musical faculty in, 235.
pauper alcoholic, 284.
Intestine, dilatation of, due to atresia recti.
Coats, 136.
foreign body in, 315.
obstruction of, 238.
Ireland, increase of insanity in, 464, 465.
JENKINS, THOS. W.—The early diagnosis of
fetal hydrocephalus, 26.
KENNEDY, ROBERT.—The anatomy of flat-foot,
198.
Kidney, removal of. H. E. Clark, 382.
Knee-joint, excision and erosion of. William
Anderson, 27.
LABOUR, a guide to management of difficult.
Ernest Herman (*Review*), 48.
Larynx, injections of, 76.
Injection of medicaments through the crico-
thyroid membrane, 393.
necrosis and fracture of. Geo. S. Middleton,
343.
Leprosy, persistence of thenar eminence in,
154.
Lithotomy, supra-pubic. George Buchanan,
363.
Liver, cystic degeneration of. H. C. Cameron,
301.
gummata of. Samson Gemmell and R. M.
Buchanan, 107.
London, University of, 405.
Longevity and heart disease. James Adam,
114.
“*Lourdes*” from a medical point of view.
Jane B. Henderson (*Review*), 269.
Lunatics, certification of. J. Carswell, 346.
Lungs, tuberculosis of. S. Gemmell and R.
M. Buchanan, 107.
Lupus erythematosus and iodide of starch,
428.
MACARTNEY, DUNCAN.—Excision of elbow-joint,
with thirty cases in illustration, 166.
Madeira and Canary Islands. A. S. Brown
(*Review*), 221.
MACKENZIE, W. LESLIE.—The place of hy-
gienics in a medical journal, 275.
M’LACHLAN, J. T.—Some considerations re-
garding the etiology and treatment of
Bright’s disease, 241.
Marrow of bone in pernicious anaemia, 231.
MARSHALL, T. R.—The relation between chem-
istry and medicine, 355.
Massage, vibratory, of upper air passages, 77.
MAYLARD, A. E.—Encysted hydrocele of cord,
392.
Mediastinitis, purulent. G. S. Middleton, 1.
Mediastinum, sarcoma of, 314.
tumour of. G. S. Middleton, 430.
Medicine and chemistry. T. R. Marshall, 355.
history of. E. T. Withington (*Review*), 368.
the unity of. Robert Barnes, 401.

MEDICO-CHIRURGICAL SOCIETY: TRANSACTIONS OF—

- CAMERON, MURDOCH.—Subserous fibroid of uterus removed by operation, 50.
 REID, W. L.—Simple enterocoele vaginalis, posterior—operation, 51.
 double vagina and uterus—operation, 52.
 OLIPHANT, E. H. L.—Occlusion of vagina obstructing labour in a primipara, 54.
 GRAY, H. ST. CLAIR.—Treatment of endometritis, 56.
 RUTHERFURD, HENRY.—Fracture of femur five weeks after injury—extensive thrombosis, 60.
 OSWALD, L. R.—Calvarium from case of circular insanity, 61.
 HAWTHORNE, C. O.—Rupture of chordæ tendinæ of mitral valve, 63.
 RUTHERFURD, HENRY.—Eczema of nipple, 67.
 BUCHANAN, R. M.—Rupture of chordæ tendinæ of mitral valve, 66.
 DALZIEL, T. K.—Cancer of femur, complicated with epithelioma, 68.
 SUTHERLAND, T. R.—Epithelioma involving metacarpal bone, 69.
 Card specimens—Gummata of testis; conurus serialis; molluscum fibrosum; cystic kidneys; calculous pyelonephritis, 69, 70.
 MIDDLETON, GEO. S.—Subcutaneous rheumatic nodules, 224.
 dermography, 225.
 BUCHANAN, R. M.—Cases illustrating a type of idiocy in children, 227.
 HINSHELWOOD, JAMES.—Eye symptoms in medical diagnosis, 227.
 DUN, W. G.—Psoriasis cured by thyroid extract, 229.
 KENNEDY, ROBERT.—The anatomy of flat-foot, 231.
 KERR, J. MUKRO.—The gynecological clinics of Berlin, 232.
 OLIPHANT, E. H. L.—Symphysectomy, 233.
 DALZIEL, T. K.—Card specimens: (1) hygroma of neck; (2) recurrent cancer of breast; (3) ossifying shoulder, sarcoma of lower jaw; (4) double pyosalpinx with absence of ovary; (5) varices removed by operation, 233.
 CARSLAW, J. H.—Bilateral facial paralysis, 300.
 COATS, J.—Two cases of rupture of urinary bladder, 301.
 CAMERON, H. C.—Cystic degeneration of liver, exploratory incision, 305.
 malignant disease and displaced organs, 309.
 COATS, J.—Wood's painful subcutaneous tumour, 311.
 SOMERVILLE, W. F.—Central Institute of Gymnastics, Stockholm, 374.
 DALZIEL, T. K.—Needle removed from liver of child aged 5 months, 457.
 nephrectomy in a child aged 2 years, 458.
 DOWNIE, WALKER.—Lupus of nose and throat, 460.
 RAMSAY, MAITLAND.—Tobacco amblyopia, 461.
 Men, vitality of, 72.
 Meningeal artery, surgical anatomy of middle, 239.
 Menstruation and gestation. Robert Barnes, 401.

MIDDLETON, GEO. S.—A case showing some of the phenomena described in Mr. Jonathan Hutchinson's articles on acro-pathology, 161.

- case of general bilateral peripheral neuritis, with recovery, 258.
 a case of myxœdema successfully treated with thyroid gland; relapse after cessation of treatment, and death from tumour of the mediastinum, 430.
 necrosis of pancreas, with cyst formation and fat necrosis, 99.
 purulent necrotic mediastinitis, with pericarditis and double empyema, resulting from suppuration of a sub-maxillary gland, 1.
 a case of hæmoptysis and surgical emphysema arising from fracture of a necrosed larynx, 343.
 Milk, absorption of odours by, 312.
 preservation of, by oxygen, 313.
 Mitral valve, rupture of chordæ tendinæ of. C. O. Hawthorne and R. M. Buchanan, 63, 66.
 Mouth, perforating ulcer of, 469.
 Musical faculty in cerebral diseases, 235.
 Music and the musical faculty in insanity, 235.
 Myxœdema, and effects of climate on. A. M. Wilson (*Review*), 41.
 fatal, from mediastinal tumour. Geo. S. Middleton, 430.
 seven cases treated by thyroid feeding. Alex. Napier, 81.

NAPIER, ALEX.—Seven cases of myxœdema treated by thyroid feeding, 81.
 Nephrectomy. H. E. Clark, 382.
 Nephritis, non-albuminous, 153.
 Neuritis, general bilateral peripheral. G. S. Middleton, 258.
 mercurial, caused by anti-syphilitic treatment, 213.

Nose, electrolysis in disease of, 78.

- ODOUR, absorption of, by milk, 312.
 Oesophagus, aneurysm bursting into. R. M. Buchanan, 377.
 Opium: has it any other use than a strictly medical one, 237.
 Organs, malignant disease in displaced. H. C. Cameron, 309.
 Osteoma of brain. D. Fraser, 380.
 Otology at Bristol meeting of British Medical Association, 395.
 Otorrhœa, cure of, 394.
 Oxygen as preservative of milk, 313.

PAGE'S disease. H. Rutherford, 67.
 Pancreas, necrosis and cyst of. George S. Middleton, 99.

Parasites, intestinal and eosinophile cells, 457.

PATHOLOGICAL AND CLINICAL SOCIETY: TRANSACTIONS OF—

- FINLAYSON, J.—Sporadic cretinism in a child aged 5, improving under thyroid treatment, 130.
 HUNTER, W. K., and EDINGTON, G. H.—Pyelo-nephritis, dilated ureters, and cystitis in a child aged 5 years, 131.
 COATS, JOSEPH.—Specimen of rheumatoid arthritis, 136.
 atresia recti with dilatation of intestine, 137.
 RUSSELL, A. W.—Cutaneous horn of cheek, 138.
 BEATSON, G. T.—Ovarian cyst, 141.

PATHOLOGICAL AND CLINICAL SOCIETY: TRANSACTIONS OF (continued)—

- NAPIER, ALEX.—Case of myxodema cured by thyroid extract, 141.
- CAMERON, H. C.—Vermiform appendix communicating with bladder, and successfully removed by operation, 143.
- GEMMELL, S., and BUCHANAN, R. M.—Syphilitic disease of trachea, &c., 147.
- FRASER, DONALD.—Malignant stricture of transverse colon, 147.
- Card specimens—Parovarian cyst; dermoid cyst; vesical calculi; biliary calculi; papilloma of tongue; malformation of ribs, 149.
- BUCHANAN, R. M.—Aneurysm of aorta rupturing into œsophagus, 377.
- FRASER, DONALD.—Osteoma of brain, 380.
- CLARK, H. E.—Kidney removed by nephrectomy, 383.
- MATLARD, A. E.—Encysted hydrocele of cord, 392.
- Paralysis, bilateral facial. J. H. Caralaw, 300.
- bulbar. T. M'Call Anderson, 426.
- general, of childhood, 154.
- pseudo-hypertrophic. T. M'Call Anderson, 106.
- Parosis, general, a toxine disease, 234.
- PAVY, F. W.—The physiology of the carbohydrates (*Review*), 236.
- Pelvis, a direct method of measuring conjugate, 317.
- Pericarditis with purulent mediastinitis. G. S. Middleton, 1.
- Peritonitis, tubercular; recovery. T. M'Call Anderson, 424.
- PEPPER, WILLIAM.—Text-book of medicine by American teachers (*Review*), 124.
- Phenacetin, ill effects of use of, 236.
- Phonography in clinical teaching (*Review*), 223.
- Phthisis pulmonalis, phlebitis in, 315.
- a premonitory symptom of, 151.
- pulmonary gymnastics in, 315.
- Plethora, physiological. Robert Barnes, 413.
- Polypharmacy, 237.
- POWELL, R. DOUGLAS.—Diseases of the lungs (*Review*), 125.
- Pregnancy, spurious, sequel of. J. G. Havelock, 296.
- Proteid, amount necessary for daily food, 312.
- Prunus Virginiana in heart disease, 237.
- Psoriasis caused by thyroid extract. W. G. Dun, 229.
- Public health, department of, in *Journal*, 275.
- Pulse, eight beats in a minute, 152.
- Purpura, sulpho-carbolates in, 336.
- Pyelonephritis in a child of 5. W. K. Hunter and G. H. Edington, 131.

RECTUM, atresia of. Coats, 136.

Retina, detachment of, 79.

REVIEWS—

- ALTHAUS, J.—On failure of brain power (encephalasthenia), its nature and treatment, 44.
- ANDERSON, T. M'CALL.—Diseases of the skin, 296.
- BENTLEY, A. J. M.—Béri-béri, 455.
- BIGELOW, HORACE B.—An international system of electro-therapeutics, 33.
- BOCQUILLON-LIMOISIN.—Formulaire des médicaments nouveaux, 212.
- BRAIDWOOD, P. M.—The mother's help, 122.

REVIEWS (continued)—

- BROWN, A. S.—Madeira and the Canary Islands, 231.
- Burdett's hospital and charities annual for 1894, 236.
- BURY, JUDSON S.—Clinical medicine, 123.
- CARPENTER, GEO.—Congenital affections of the heart, 213.
- CHARCOT.—Diseases of nervous system, 456.
- CLARKE, J. J.—Cancer, sarcoma, and other morbid growths considered in relation to sporozoa, 213.
- DONKEN, H. B.—The diseases of childhood (medical), 121.
- Edinburgh hospital reports, vol. ii, 215.
- HERMAN, ERNEST.—Difficult labour: a guide for practitioners and students, 48.
- FIREBAUGH, E. M.—The physician's wife, 220.
- FRANKLAND, PERCY.—Micro-organisms in water, 372.
- German clinical lectures, 291.
- GOUGHENHEIM & OLIVER.—Atlas of laryngology and rhinology, 117.
- HALL, F. DE HAVILLAND.—Diseases of the throat and nose, 126.
- HARVEY, F. G.—The pharmacopœia of the Hospital for Diseases of the Throat, 296.
- Index pathologicus, 129.
- INGLIS-PARSONS, J.—The healing of rodent cancer by electrolysis, 214.
- ITARD, &c.—Le sauvage de l'Aveyron, 129.
- JENNINGS, C. E.—Cancer and its complications, 292.
- Johns Hopkins reports, vol. iii, 49.
- KERR, NORMAN.—Inebriety or narcomania, 297.
- KOSSEL, H.—Blood serum treatment of diphtheria, 369.
- LEFERT, PAUL.—La pratique des maladies des système nerveux dans les hôpitaux des Paris, 50.
- LYDTON, G. F.—Stricture of the urethra, 293.
- MACNAUGHTON-JONES.—Diseases of women, 454.
- MANLEY, T. H.—Hernia: its palliative and radical treatment in adults, children, and infants, 214.
- MARTIN, C.—After-treatment of cases of abdominal section, 127.
- MERCIER, C.—Lunatic asylums, 373.
- MOULIN MANSSELL.—Sprains, their consequences and treatment, 46.
- MUSKETT, P. S.—The art of living in Australia, 222.
- MYGIND, H.—Deaf-mutism, 219.
- NORRIS & OLIVER.—Text-book of ophthalmology, 232.
- PARKER, C. A.—Post-nasal growths, 294.
- PAVY, F. W.—The physiology of the carbohydrates: their application as food and relation to diabetes, 236.
- PEPPER, WILLIAM.—A text-book of the theory and practice of medicine by American teachers, 124.
- PHILLIPS, C. D. F.—Materia medica, pharmacology, and therapeutics, 292.
- PHILLIPS, LESLIE.—Medicated baths in treatment of skin diseases, 297.
- Phonographic record of clinical teaching, 223.
- POWELL, R. D.—On diseases of the lungs and pleura, 125.

REVIEWS (continued)—

- SAUNDY, ROBERT.—The common forms of dyspepsia in women, 48.
- THOMAS, JOHN DAVIS, & LENDON, A. A.—Hydatid disease, 212.
- Transactions of the American Surgical Association, 217.
- Transactions of Berlin Medical Society, 218.
- WHEELER, ALEX.—The student's handbook of medicine and therapeutics, 209.
- WILL, J. C. OSILVIE.—Lectures on genito-urinary diseases, 47.
- WILSON, A. M.—Myxodema and the effects of climate on the disease, 41.
- WITHINERON, E. T.—Medical history from earliest times, 368.
- Year-book of scientific societies, 128.
- The year-book of treatment, 1891, 123.
- Rheumatism, subcutaneous nodules in. G. S. Middleton, 234.
- Rodent ulcer, healing of. Ingils-Parsons (*Review*), 214.
- SAUNDY, R.—The common forms of dyspepsia in women (*Review*), 48.
- Sarcoma, primary, of ventricles of brain, 234.
- of mediastinum, 314.
- Scarlatina, disinfection of, before complete desquamation, 398.
- Scurvy, infantile, its differential diagnosis, 316.
- Skin, auto-intoxication in diseases of, 399.
- diagnosis of diseases of, 157.
- pigmentation of, by arsenic, 154.
- vasomotor disturbances of, 318.
- Sodium nitrite as a therapeutic agent, 236.
- SOMERVILLE, W. F.—A recent visit to the Central Institute of Gymnastics, Stockholm, 333.
- Specialism. Robert Barnes, 402.
- Spina bifida occulta with hypertrichosis lumbalis, 469.
- Spine, caries of vertebrae producing disease of cord. T. M'Call Anderson, 104.
- Sporosoa in cancer, &c. Jackson Clarke (*Review*), 213.
- Sprains, their consequences and treatment. C. W. M. Moullin (*Review*), 46.
- Starch, iodide of, in lupus erythematosus. T. M'Call Anderson, 423.
- Stockholm, Central Institute of Gymnastics at. W. F. Somerville, 333.
- Sulphocarbolates in purpura, 396.
- Symphysiotomy, 74.
- E. H. L. Oliphant, 233.
- Syphilis, late effects of. S. Gemmell and R. M. Buchanan, 107.
- and general paralysis, 466.
- TACHES bleuâtres, 397.
- Throat, diagnosis of diseases of, 393.
- antiseptics in diseases of, 78.
- Thrombosis of cerebral sinuses in chlorosis, 468.
- Thyroid extract in myxodema. George S. Middleton, 430.
- extract, its therapeutics, 235.
- feeding in myxodema. Alex. Napier, 81.
- Tonsils, removal of, in diphtheria. William Watson, 7.
- Trachea, syphilitic ulceration of. S. Gemmell and R. M. Buchanan, 107.
- Treatment of Bright's disease. J. T. M'Lauchlan, 241.
- Trophoneurosis, necrotic, 466.
- autocopic, 466.
- Tumours, malignant, transformation of benign. Lennox Browne, 29.
- osseous, of brain. D. Fraser, 390.
- painful subcutaneous, of Wood, 309.
- Typhoid, incubation period of. A. M. Anderson, 321.
- state of bowel in, after antiseptic treatment. A. M. Anderson, 4.
- ULCER, perforating, of mouth, 469.
- Ulceration, syphilitic, of trachea. S. Gemmell and R. M. Buchanan, 107.
- University of London. Robert Barnes, 405.
- Urea, where formed in animal body, 312.
- Urticaria, rational treatment of, 397.
- Uterus, double, operation. W. L. Reid, 52.
- operation for suspending retroflected, 318.
- retroversion of, with distension of the bladder. William Gemmell, 274.
- subserous fibroid of. M. Cameron, 50.
- Vagina, occlusion of, in primipara. E. H. L. Oliphant, 54.
- double, operation. W. L. Reid, 51.
- Vertebrae, caries of, causing spinal symptoms. T. M'Call Anderson, 104.
- Vitality of men and women, 72.
- WATSON, WILLIAM.—The prevention and treatment of diphtheria, with cases (having special reference to removal of tonsils), 7.
- WILL, OSILVIE.—Genito-urinary diseases (*Review*), 47.
- WILSON, A. MARIUS.—Myxodema (*Review*), 41.
- WITHINERON, E. T.—History of medicine (*Review*), 368.
- Women, vitality of, 72.
- ZOLA, his novel of "Lourdes" from a medical point of view. Jane B. Henderson (*Review*), 269.

12

149/3-

413
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